

Chapter 7 Enhanced State Mitigation Plan

Disaster Mitigation Act of 2000

§ 201.5 : Enhanced State Mitigation Plans

- (a) ... The Enhanced State Mitigation Plan must demonstrate that a State has developed a comprehensive mitigation program, that the State effectively uses available mitigation funding and that it is capable of managing the increased funding.
- (b) ...must include all elements of the Standard State Mitigation Plan identified in §201.4, as well as document the following:
1. Integration to the extent practicable with other State and/or regional planning initiatives...
 2. Document State's project implementation capability, including:
 - i. Established eligibility criteria for multi-hazard issues
 - ii. A system to determine cost-effectiveness of mitigation measures and to rank measures according to State's eligibility criteria
 - iii. Demonstration that the State has the capability to effectively manage the HMGP as well as other mitigation grant programs [per listed requirements and criteria]
 - a Meeting grant application timeframes, submitting complete applications...;
 - b Preparing and submitting accurate environmental reviews and benefit-cost analyses;
 - c Submitting complete and accurate quarterly progress and financial reports on time; and
 - d Completing HMGP and other mitigation grant projects within established performance periods, including financial reconciliation.
 3. Demonstration that the State is committed to a comprehensive state mitigation program, which might include any of the following:
 - i. A commitment to support local mitigation planning by providing workshops and training, State planning grants, or coordinated capability of Emergency Management and Floodplain Management certifications.
 - ii. A statewide program of hazard mitigation through the development of legislative initiatives, mitigation councils, etc.
 - iii. The State provides a portion of the non-Federal match for HMGP and other mitigation projects,
 - iv. To the extent allowed by State law, the State requires or encourages local governments to use a current version of a nationally applicable model building code...
 - v. A comprehensive, multi-year plan to mitigate the risks posed to existing buildings that have been identified as necessary for post-disaster response and recovery operations
 - vi. A comprehensive description of how the State integrates mitigation into post-disaster recovery operations
- (c) **Review and Updates**
- (1)...a State must review and revise its plan to reflect changes in development, progress in state mitigation efforts, and changes in priorities, and resubmit it for approval to the Regional Director every three years.
 - (2)...In order for a State to be eligible for the 20 percent HMGP funding, the Enhanced State Mitigation Plan must be approved by FEMA within the three years prior to the current major disaster declaration.



7.1 Adherence to Standard State Plan Requirements

The Commonwealth of Virginia Emergency Operations Plan, Volume 2, Support Annex 3: Standard Hazard Mitigation Plan was approved by the DHS Federal Emergency Management Agency Region III Acting Director by a letter dated September 28, 2004. This letter may be found in Enhanced Plan Appendix 1. The Enhanced Plan Crosswalk may be found in Appendix 10.

7.2 Enhanced Plan Elements

7.2.1 Integration with Other Planning Initiatives - 201.5(b)(1)

The Standard Plan, Chapter 2 provides specific information regarding planning conducted in the Commonwealth related to natural hazard mitigation. Local jurisdictions in Virginia address some natural hazards in the planning and development process, primarily through development of comprehensive land use plans, zoning, and enforcement of the Uniform Statewide Building Code. Specifically, flood and hurricane zones are addressed through floodplain management ordinances that are often incorporated into a holistic local government zoning ordinance. These hazards, as well as wind, snow and ice are addressed through the standards of the building code.

In preparation of a comprehensive plan, local planning commissions are required to survey and study use and preservation of land, characteristics and conditions of existing development, natural resources, surface water, geology, environmental and economic factors, existing public facilities, drainage, flood control and flood damage prevention measures, among others. (§15.2.2224, *Code of Virginia*). The regional and local all-hazard mitigation planning process included development of county, city and town goals, objectives and strategies to reduce the impacts of natural hazards on the locality, its citizens, businesses and organizations. These mitigation initiatives were developed by the community leaders responsible for local comprehensive land use planning with the understanding of the necessity to integrate mitigation planning into comprehensive planning. Comprehensive plans are renewed on a five-year basis, that in most cases will not align with the §322 planning schedule. This will actually allow integration of newly developed hazard mitigation initiatives into revised local comprehensive plans.

Of the 27 local and regional all-hazard mitigation plans that were developed, only the Cities of Chesapeake, Poquoson and Franklin, along with Amelia and Southampton Counties produced single jurisdiction plans. The other 22 plans were regional, coordinated through regional planning district commissions or a group of local governments. VDEM staff has initiated a planning support and mentoring program to ensure that the plans remain dynamic through consistent direction of the plan steering committee. Local plan steering committees are meeting annually to review plan status, update HIRA information and seek funding opportunities for strategies and projects listed in the plans. VDEM staff often attends or calls in to these meetings to provide technical assistance and encouragement.

Virginia Government Organization

Within the Commonwealth of Virginia, “local government” encompasses the counties, cities, and incorporated towns recognized by the *Code of Virginia*. Virginia counties, cities, and incorporated towns have independent land use management authority within their respective boundaries. The planning district commissions (PDCs) are regional planning organizations that provide technical and planning support to the localities within



their respective regions. However, while the PDCs do perform land use planning at the request of their localities, they cannot implement or enforce the plans they create for their localities. Implementation and enforcement remains the responsibility of the cities, counties, and towns for which plans were developed.

Regional Planning

Regional planning district commissions serve as a focal point for regional initiatives. As discussed in Chapter 5, when the Commonwealth first approached development of local §322 all-hazard mitigation plans, it became apparent that federal, state and local financial and technical resources could not support development of separate plans for all Virginia cities, counties and towns. Since many rural communities have limited local government staffs, it was determined during 2002 that for cost-effectiveness as well as development of strong hazard identification and risk analysis, a regional all-hazard mitigation approach would be appropriate.

Regional Planning District Commissions

The following description of Virginia Planning District Commissions is based on information from the Virginia Association of Planning District Association website: <http://www.vapdc.org/>. During 1968, Virginia was delineated into planning districts based on the community of interest among its counties, cities and towns. A Planning District Commission is a political subdivision of the Commonwealth chartered under the Regional Cooperation Act by the local governments of each planning district. As such they are a creation of local government encouraged by the state. The Virginia Association of Planning District Commissions helps its member local governments meet their responsibilities to local and state government and coordinates regional functions.

There are 21 PDCs in Virginia. They are made up of elected officials and citizens appointed to the Commission by member local governments. The Commission selects an Executive Director responsible for managing daily operations. Commission offices are located generally in a central location for the region as determined by the Commission charter. Meeting schedules vary; meetings are open to the public.

The purpose of Planning District Commissions, as set out in the Code of Virginia, Section 15.2-4207, is ...to encourage and facilitate local government cooperation and state-local cooperation in addressing on a regional basis problems of greater than local significance. The cooperation resulting from this chapter is intended to facilitate the recognition and analysis of regional opportunities and take account of regional influences in planning and implementing public policies and services.
The planning district commission shall also promote the orderly and efficient development of the physical, social and economic elements of the district by planning, and encouraging and assisting localities to plan, for the future.

Virginia's PDCs provide a variety of technical and program services to member local governments. Services include grant application assistance, management support to program implementation, land use planning and mapping. The merge of mapping and information services has created the field of Geographic Information Systems (GIS), where PDCs often excel in providing data analysis and mapping resources that local governments cannot afford. For the Commonwealth, PDCs serve as an accessible network that gives quick and complete statewide coverage. Each serves as the Affiliate



State Data Center for the region. In this role they provide important information to businesses and citizens. PDCs are the regional contact for the Commonwealth Intergovernmental Review Process and thus provide input for a host of agencies and commissions. Transportation planning is another role for PDCs, who may deal with highway development, ridesharing, airport planning, and specialized transit.

Planning District Commissions have been meeting the needs of local and state government for the past 35 years. Within their region, they may serve to build regional approaches to issues like economic development, solid waste management and legislative priorities. In other states, organizations like PDCs are known as regional councils, regional commissions, and councils of government. Several Virginia Planning District Commissions have recently been renamed to “Regional Councils” or “Regional Commissions” to better reflect their role in supporting their local government members.

One important duty of the PDC is to create a strategic plan for their region of service. This plan is created in cooperation with local governments, businesses, citizens, organizations, and other interested parties. The plan is intended to promote and develop an orderly and efficient PDC by stating goals and objectives, strategies to meet those goals, and mechanisms for measuring progress.

Other duties of Planning District Commissions:

- To conduct studies on issues and problems of regional significance;
- To identify and study potential opportunities for local cost savings and staffing efficiencies through coordinated local government efforts;
- To identify mechanisms for the coordination of state and local interests on a regional basis;
- To implement services upon request of member localities;
- To provide technical assistance to state government and member localities;
- To conduct strategic planning for the region as required by applicable law;
- To develop regional functional area plans as deemed necessary by the commission or as requested by member localities;
- To assist state agencies, as requested, in the development of sub-state plans;
- To participate in a statewide geographic information system, the Virginia Geographic Information Network, as directed by the Department of Planning and Budget; and;
- To collect and maintain demographic, economic, and other data, acting as a state data center affiliate in cooperation with the Virginia Employment Commission.

Some Virginia planning district commissions have been active in certain areas of emergency management such as development of hurricane evacuation plans and sponsorship of hazard mitigation grant programs. Several planning district commissions sponsored FEMA's Project Impact. As such, they were an ideal organization to develop regional all-hazard mitigation plans. The following Virginia Planning District Commissions have completed §322 plans:



Table 7-1: Planning District Commission Sponsored Mitigation Plans		
Commission Number	Commission Name	2008 Plan Status
1	LENOWISCO Planning District Commission	Approved
2	Cumberland Plateau Planning District Commission	Approved
3	Mount Rogers Planning District Commission	Approved
4	New River Planning District Commission	Approved
5	Roanoke Valley – Allegheny Highlands Regional Commission	Approved
6	Central Shenandoah Planning District Commission	Approved
7	Northern Shenandoah Valley Regional Commission	Approved
8	Northern Virginia Regional Commission	Approved
9	Rappahannock-Rapidan Regional Commission	Approved
10	Thomas Jefferson Planning District Commission	Approved
11	Region 2000 Regional Commission	Approved
12	West Piedmont Planning District Commission	Approved
13	Southside Planning District Commission	Approved
14	Commonwealth Regional Council (formerly Piedmont)	Approved
15	Richmond Regional Planning District Commission	Approved
16	RADCO Planning District Commission	Approved
17	Northern Neck Planning District Commission	Approved
18	Middle Peninsula Planning District Commission	Approved
19	Crater Planning District Commission	Approved
22	Accomack – Northampton Planning District Commission	Approved

Note: Due to consolidations, PDCs 20 & 21 no longer exist.



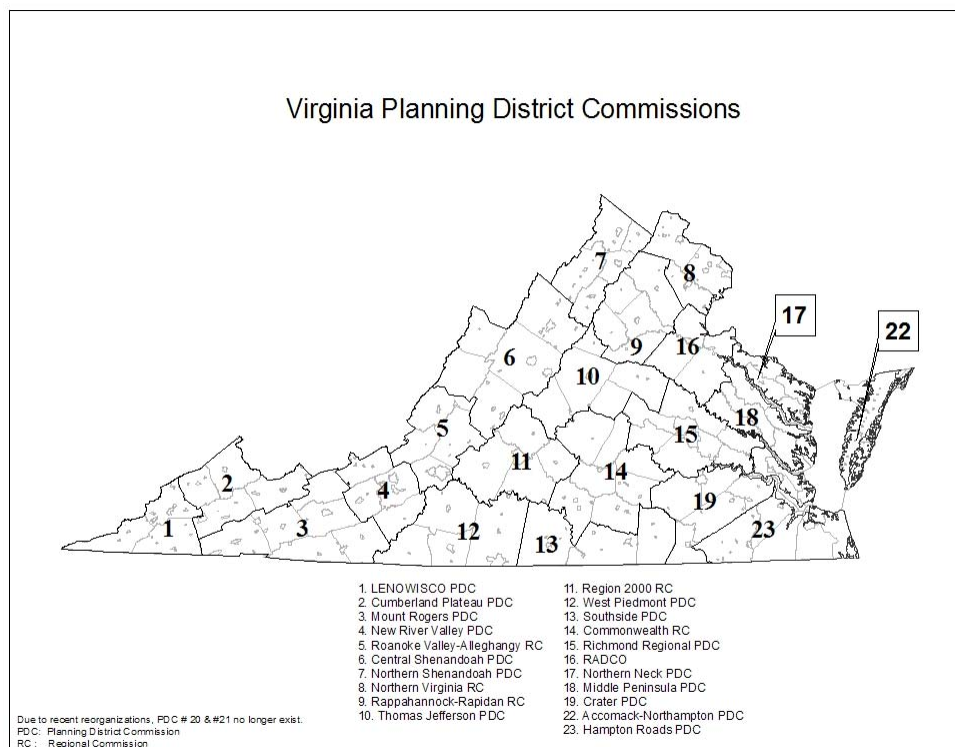


Figure 7-1 – Map of Planning District & Regional Commissions

In addition, the Hampton Roads Planning District Commission (HRPDC) is heavily involved in development of two regional plans, the Peninsula plan and the South Hampton Roads plan.

The Commonwealth of Virginia recognizes 39 cities, 95 counties, and 190 incorporated towns. The involvement of Virginia planning district commissions in development of all-hazard mitigation plans, given their oversight and technical planning support to Virginia local governments, ensures a regional integration of mitigation planning into other planning efforts that is more effective than state planning oversight. A complete list of these localities is provided in Appendix G.

State Planning

It must be noted that existing programs, statutes and policies of state agencies were reviewed during the early stages of plan development and remained in the background throughout the planning process. However, the *Emergency Operations Plan, Volume 2, Support Annex 3: Standard Virginia Hazard Mitigation Plan - Chapter 4 Mitigation Strategy* was developed specifically to address state agency structural, human-caused hazard, policy and information development deficiencies identified through the hazard identification and risk analysis process described in Chapter 3.

The goals and objectives of the hazard mitigation plan are relevant to a long-term recovery effort following a significant regional or state disaster. Specifically, mitigation funding through HMGP and CDGB grants can be integrated into a community long-term recovery plan to provide coordinated community re-development with appropriate long-

term conversion of disaster-prone properties into green space or hardened non-residential property or infrastructure. The best example of this in recent disasters is the use of a variety of funds and resources, including HMGP, CDGB, donations and Volunteers Active in Disasters (VOAD) in the City of Franklin (Hurricane Floyd, 1999) and the City of Poquoson (Hurricane Isabel 2003).

Many of the Commonwealth's state and local programs, policies and statutes address natural hazards. They are listed in Chapter 2 of the plan to provide background on institutional and comprehensive approaches to natural hazards mitigation that have been present in Commonwealth programs prior to the 2000 Stafford Act revision. These programs contribute significantly to reduced impacts from natural hazards.

Floodplain Management:

Since development of the *Standard Hazard Mitigation Plan*, the Department of Conservation and Recreation has developed and released its floodplain management program plan, *The Floodplain Management Plan for the Commonwealth of Virginia*. The VDEM Hazard Mitigation Program is strongly linked to DCR's floodplain management program, staff from VDEM participated in and reviewed the floodplain management plan, and DCR staff played an integral role in development of the mitigation plan. The Plan addresses the issues of repetitive loss properties but was written prior to designation by Congress of "severe repetitive loss properties." As denoted in the HIRA (Chapter 3), flooding is the Commonwealth's primary natural hazard, and participation of 275 of its cities, counties and towns in the NFIP is a testament to the seriousness of flooding. The plan provides a comprehensive description of the roles and responsibilities of federal, state and local governments to implement the state's flood control policies. The plan is complemented by a *Citizen's Guide* and *Local Official's Guide* that provide more practical aspects of plan implementation, particularly regarding enforcement of national flood insurance program initiatives. *The Floodplain Management Plan for the Commonwealth of Virginia* has six strategies, which will be integrated into a revised state hazard mitigation plan as well as the local and regional hazard mitigation plans, where appropriate. A digital version of the plan may be found in Appendix 13 or at www.vamapmod.org.

In addition, the *FEMA Multi-Year Flood Hazard Identification Plan* describes the structure for the Commonwealth's map modernization program business plan. This important five-year initiative to fully digitize and improve the state's nearly 20,000 FIRM panels is critical to improvement of flood and hurricane hazard data.

The state NFIP coordinator sits on the Department of Transportation project review committee as well as the state 401/404 permit review committee to ensure consistency among state and federal programs per consistency policies. All state-sponsored capital improvement projects undergo a floodplain management program review to ensure compliance with state and federal floodplain management regulations and policies.

Finally, VDEM's Hazard Mitigation Program Manager and IFLOWS Program Manager are former staff members of the state's floodplain management program and hold CFM certifications. In addition, the entire VDEM mitigation staff has completed "Managing Development in the NFIP" and will likely sit for CFM certification during the next few months. This exceptional floodplain management skill set within VDEM's recovery programs allows for expanded floodplain management capacity within the Commonwealth. Training programs, workshops, education and structural mitigation strategies are routinely implemented through the combined efforts of these two agency staffs. While DCR was an active participant in development of the mitigation plan, the enhanced plan, per the CFR, most directly addresses program capacity issues, which are a primary agency administrative responsibility of the VDEM hazard mitigation staff.



Specific business protocols, rigidly addressed within Chapter 7, section 7.2.2, are implemented by VDEM as standard operating procedures, not mitigation strategies.

COOP:

Required state agency comprehensive planning is now directed as an element of biennial budget development and planning. The plans are based on specific state agency mandates and program implementation metrics, which are not easy to integrate across state agencies, even those with common missions. However, Continuity of Operations Planning does have a direct relationship with emergency management, including hazard mitigation.

Since the initial development of the *Standard Hazard Mitigation Plan* during 2004, all state agencies through an executive order have developed continuity of operations (COOP) plans. Many of the elements of these plans, which describe in detail how the business practices of all essential state agencies will be maintained during a natural or human-caused disaster, have created linkages in state agency planning to the Standard Hazard Mitigation Plan. Indeed, many of the strategies listed in Chapter 4 and Appendix H of the plan involve development of Continuity of Operations Plans.

Capital Improvement Projects:

The Standard Plan HIRA and subsequent mitigation goals, objectives and strategies addressed the nearly 12,000 state-owned or leased structures per the state's insured properties database. Many of the structural mitigation strategies and objectives addressed mitigation of state-owned structures. To date, a FEMA-Commonwealth mitigation grant has never been awarded to an agency of the Commonwealth for the purpose of structural mitigation.

Improvement of state-owned property, including mitigation, is managed through a long-term capital improvement planning program that requires initiation of a project at least six years prior to when actual construction work would occur. This is due, in part, to a two-year "biennial" Commonwealth budget process that is controlled by the Virginia legislature. Since FEMA-Commonwealth grant application processes are somewhat more streamlined, it is unlikely that many state mitigation projects would ever be funded through traditional mitigation funding sources. However, COOP planning, human-caused hazards and post-Katrina analysis have continued to reinforce the need for hardened state facilities, particularly those that support critical functions that must be maintained during a disaster or emergency. State agencies will continue to be informed of the need to integrate structural hazard mitigation measures into long-term capital improvement planning.

Disaster Resistant Universities:

The Commonwealth of Virginia has eight universities engaged in the Disaster Resistant University (DRU) planning process: George Mason University, Old Dominion University, Radford University, University of Mary Washington, University of Virginia, Virginia State, Virginia Commonwealth and Virginia Tech. The DRU planning process involves development of an extensive, detailed HIRA that provides analysis of specific priority structures on each campus. These HIRAs inform the development of mitigation strategies to reduce exposure of students and key elements of the university's mission (such as research) to hazards. The resulting structural mitigation measures are incorporated into the university's capital improvement program. It is more likely, especially through programs such as the Pre-Disaster Mitigation Grant Program (PDM), that structural mitigation measures may be funded directly through FEMA-Commonwealth hazard mitigation grants.



Local Planning and Development

With respect to addressing natural hazards, local jurisdictions control land use through plans, ordinances and codes. These programs, enabled through state law and regulation, contribute significantly to mitigation of natural hazards. These programs were not directly considered during development of the *Commonwealth of Virginia Emergency Operations Plan, Volume 2, Support Annex 3:- Standard Virginia Hazard Mitigation Plan* because the plan primarily addresses state facilities determined to be at risk following an analysis of vulnerability of state facilities to natural hazards. However, these efforts are extremely relevant as state agencies generally manage state facilities in a manner that is consistent and complementary of local comprehensive planning and zoning. State-sponsored construction adheres to the Uniform Statewide Building Code required for use by local governments. In general, the following local activities reflect local approaches to hazard mitigation prior to Virginia addressing natural hazards through development of local and regional all-hazards plans. Local §322 planning is addressed in Chapter 5 of this document.

- **Comprehensive Plans** are prepared by local government planning commissions and address the physical development of land within a jurisdiction's boundaries. The comprehensive plan *shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants* (§15.2-2223, *Code of Virginia*). Most plans evaluate and provide guidance for land use and the environment. Residential, business, industrial, agricultural, parks and open space, public land, floodplains, transportation corridors, community facilities, historical districts and areas targeted for redevelopment are addressed within the plan. Also included are demographic trends such as population densities and age and quality of housing stock. Comprehensive plans are revised on a five-year planning cycle by local governments; VDEM mitigation planners will work with local and regional mitigation planning steering committees and local government contacts to ensure that appropriate hazard mitigation local HIRA data and mitigation strategies are incorporated into local comprehensive plans as appropriate.
- **Zoning Ordinances** are for the general purpose of promoting health, safety or general welfare of the public. Comprehensive plans and ordinances for zoning and subdivisions must explicitly address flood hazards and geologic information (§15.2.223 et seq. *Code of Virginia*). Cities and counties in coastal zones also must address coastal management issues such as beach erosion and federally protected dune areas. Hazards not specifically required for plans to address include: non-building aspects of severe winter storms, landslides, wildfire at the urban/forest interface, and dam-break hazards. However, these natural hazards are usually addressed in local comprehensive plans and in some cases, such as dams, delineation of downstream inundation zones are required in dam emergency operation plans. In addition, local emergency operations plans address natural hazards. Some consideration to the following is given within each zoning district, where applicable:
 - adequate light, air, convenience of access, and safety from fire, flood, crime and other dangers;
 - provision of adequate police and fire protection, disaster evacuation, water, sewerage, flood protection, and other public requirements; and



- Protection against loss of life, health, or property from fire, flood, panic or other dangers (§15.2-2283, *Code of Virginia*).
- **Land Subdivision and Development Ordinances** are prescribed by statute and provide restrictions for plats, utilities, streets, flood control, drainage, and other regulations that control the density and use of the land. (§15.2-2241, *Code of Virginia*). These ordinances are generally only in place in rapidly developing or redeveloping jurisdictions. As with local comprehensive plans, revision of land subdivision and development ordinances should now be informed by jurisdiction HIRA information as well as relevant mitigation strategies outlined in local or regional mitigation plans.
- **2003 International Building Code** is the current Uniform Statewide Building Code. The 2003 International Building Code was adopted in November 2005 and supersedes local building codes and regulations. (§36-98, *Code of Virginia*). The code has been cross-walked with the National Flood Insurance Program regulations and is consistent with local floodplain ordinances. The Virginia Uniform Statewide Building Code includes provisions requiring new buildings and structures to be designed to resist certain flood, wind, snow, and seismic loads. In addition, it has very specific provisions addressing fire hazards and safety of occupants. The Uniform Statewide Building Code is required by all local governments of the Commonwealth; therefore use of the code is assumed and not specifically addressed in the hazard mitigation plan. However, it should be noted that all structural mitigation projects, whether for residential or non-residential construction, must be in full compliance of the Uniform Statewide Building Code.
- **Development and Sponsorship of Mitigation Grant Projects:** Since the early days of flood mitigation projects through the Flood Mitigation Assistance and Hazard Mitigation Grant Programs, planning district commissions have led in project sponsorship and implementation. The Accomack-Northampton Planning District Commission, Central Shenandoah Planning District Commission and Roanoke Valley-Allegheny Highlands Region Commission (former PDC 5) have all sponsored mitigation plan development or structural mitigation projects. The Central Shenandoah and Accomack-Northampton PDCs are notable for sponsoring more than 100 acquisition/demolition and elevation projects each throughout their member jurisdictions. The PDC 5 FMA plan was a landmark regional stormwater management plan that addressed riverine and urban flooding. This work not only identified priority structures for removal from the floodplain that are still targeted by current grant programs, it laid the groundwork for a new US Army Corps of Engineers Flood Control Project along with Roanoke River corridor.
- **Project Impact:** This program was initiated under the Clinton Administration to increase community awareness of disaster mitigation in an integrated way. The program was hugely successful in Virginia, there were three project impact grants:
 - **Central Shenandoah Planning District Commission** used its monies to target education. They were leaders and innovators and reached many special needs groups and addressed issues such as sheltering and care of animals long before these issues made headlines. This mainly rural region of the Commonwealth, through the leadership of the planning district commission, has continued the work of Project Impact through an HGMP grant (Isabel DR-1491-VA) as well as development of an aggressive, proactive Citizen Corps program.



- **Roanoke Valley-Alleghany Highlands Regional Commission** and its partners used *Roanoke Project Impact* to bring principles of no adverse impact and appropriate floodplain management to the Roanoke Valley corridor, which has experienced numerous serious floods during the past thirty years. The region is now engaged in an US Army Corps of Engineers Flood Management Program that includes an extensive linear park in the floodplain.
- **City of Chesapeake Impact** started its program with traditional, city-wide education activities. With the passage of the revised Stafford Act and the advent of §322 planning requirements, the city turned toward development of its own all-hazards mitigation plan since funding was not on the horizon at that time to support development of local plans. The Chesapeake Plan was the first local all-hazard plan approved by the Commonwealth and FEMA during 2004.
- **Floodplain Management** The provisions for building in floodplains have typically been addressed by stand-alone floodplain ordinances or adopted for voluntary participation in the National Flood Insurance Program. Revised floodplain ordinance provisions are incorporated into comprehensive zoning ordinances when localities adopt, revise or re-codify zoning ordinances. Currently, 275 Virginia cities, counties and towns participate in the program. More information on the program can be found at www.vamapmod.org or in the Standard Plan.

The Commonwealth is currently completing the five-year Map Modernization Program, which has improved and digitized the state's Flood Insurance Rate Maps (FIRMs). Hazard mitigation funds cannot support this effort (as in the past) but local steering committees will be informed of the program and the process. They are encouraged to participate in the new FIRM adoption process, as familiarity with the new maps will assist with local plan HIRA revisions and ultimately development of new mitigation strategies.

In partnership with VDEM and the Virginia Floodplain Managers Association, DCR has participated in eleven local Floodplain Managers Workshops since winter, 2003. One series of these workshops, conducted as part of the Hurricane Isabel Mitigation Strategy, were supported by the Central Shenandoah PDC with a coordination grant through DCR using CAPSEEE grant funds. This is one example of a regional-state partnership that delivers local technical mitigation assistance to local governments and other partners. These workshops always include presentations on mitigation planning and structural mitigation strategies. Attendance by planning district commissions and local government staff at these events has been high.

Emergency Response and Recovery

Response to natural hazard events is coordinated through local emergency management agencies. Most local agencies are responsible for preparing for and training to respond to disasters, whether natural or human-caused in origin. Recovery, especially from major events, may involve other local agencies, such as housing, public utilities, and parks and recreation. Local agencies prepare local Emergency Management Plans that direct their response and recovery operations.

The National Weather Service Storm Ready Program is gaining interest in the Commonwealth. More than 800 qualified localities participate in the program nationwide. In Virginia, the "Storm Ready" cities are Chesapeake, Danville, Hampton, Newport News and Virginia Beach. They are joined by Fairfax, Gloucester, Greene, Loudoun and Prince



William Counties. The City of Norfolk is the Commonwealth's only Storm Ready/TsunamiReady community. The voluntary program encourages emergency planners to develop severe weather and flood response plans using a grassroots approach in order to meet standards set forth by the NWS with state and local emergency managers. The standards include establishing a 24-hour warning point or emergency operations center, conducting community outreach seminars, developing response plans that include exercises and training weather spotters.

7.2.2 Project Implementation Capability - 201.5(b)(2)

The Virginia Hazard Mitigation Program is housed within the Recovery and Mitigation Program at the Virginia Department of Emergency Management. Following Hurricane Isabel, it was recognized that the program could not be effective or efficient with two full-time positions supplemented with part-time support. The program was expanded during spring, 2004, to its current structure. The program is fully staffed.

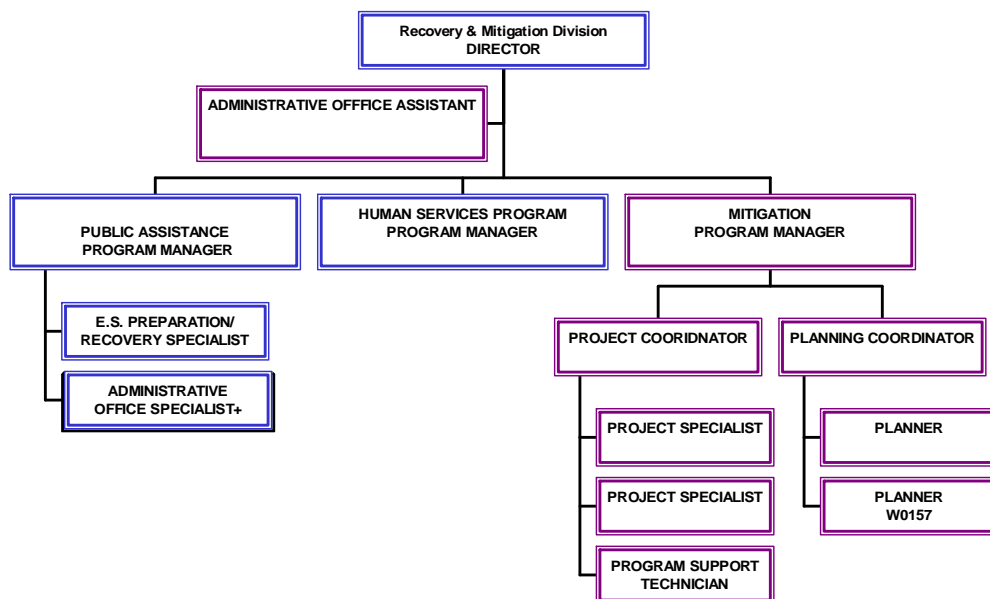


Figure 7-2 – VDEM Recovery & Mitigation Division Organization

Note: Mitigation Program Staff are shown in purple print.

7.2.2.1 Multi-hazard eligibility criteria - 201.5(b)(2)(i)

The Administration Plan, Appendix K in the Standard Plan, addresses Hazard Mitigation Grant Program (HMGP) project eligibility. Structural mitigation projects are eligible within FEMA guidelines for all hazards. During past disasters, the Commonwealth has funded projects using HMGP funds that supported mitigation for riverine and coastal flooding, high winds, tornado, terrorism and wildfire. Mitigation funding priorities are determined through development of the disaster-specific *Mitigation Strategy* during the first 10 days of operation in the Joint Field Office (JFO). This document provides the comprehensive recovery and mitigation operation for the specific disaster during the operation of the JFO. The programs outlined in the strategy can continue post-JFO, and certainly implementation of the HMGP program extends for several years post-JFO. Project priorities outlined in the *Mitigation Strategy* are determined following Preliminary Damage

Assessments and consultation with the Hazard Mitigation Plan Steering Committee Structural Mitigation Sub-committee Advisory Committee. These priorities reflect the geographic impact of the disaster as well as the type of disaster and the projects that will best serve disaster victims. For example, following Hurricane Isabel, DR-1491-VA, the *Mitigation Strategy* prioritized acquisition and demolition of primary residential structures within coastal communities impacted by winds, surge and flooding. Copies of *Mitigation Strategies* for DR-1491-VA Hurricane Isabel and DR-1544-VA Tropical Depression Gaston may be found in Enhanced Appendix 9.

As local all hazard mitigation plans gain full approval from FEMA, the action items contained within each plan will be added into a spreadsheet VDEM has developed for tracking local plan implementation and identifying project priorities. This spreadsheet will provide VDEM and its partners enhanced capability to query data that did not previously exist to identify project priorities both for annual grant funds as well as during a disaster. The dataset includes columns for jurisdictions, project categories, local plan action item identification numbers, where provided, locality designated priorities, NFIP community numbers, applicable hazard mitigation grant programs, and projected project costs when available. Approved local mitigation plans are also being posted on the VDEM website and can currently be found at www.vaemergency.com/library/plans/mitigation.cfm.

Concurrent with the ability to query the spreadsheet, VDEM is developing the capability to map projects by category using GIS. This allows the creation of visual aides that will be useful for long-term planning purposes, depicting mitigation strategies during a disaster, or preparing reports on plan implementation. This database can also be used to pursue non-FEMA funds for project implementation. Examples of a database query and mapping for a disaster are provided in Enhanced Appendix 12. Since access to grant and disaster funds is predicated on participation in the NFIP, this database does not include those localities currently not participating in the NFIP.

As a result of the §322 planning process, localities have established committees comprised of stakeholders to manage local plan implementation. During a disaster, these local committees in the affected areas can be contacted to assist VDEM in identifying HMGP project priorities. VDEM will give priority consideration to those projects identified in the local plan as a high priority.

7.2.2.2 Project Implementation Capacity- 201.5(b)(2)(ii)

Project Application Process

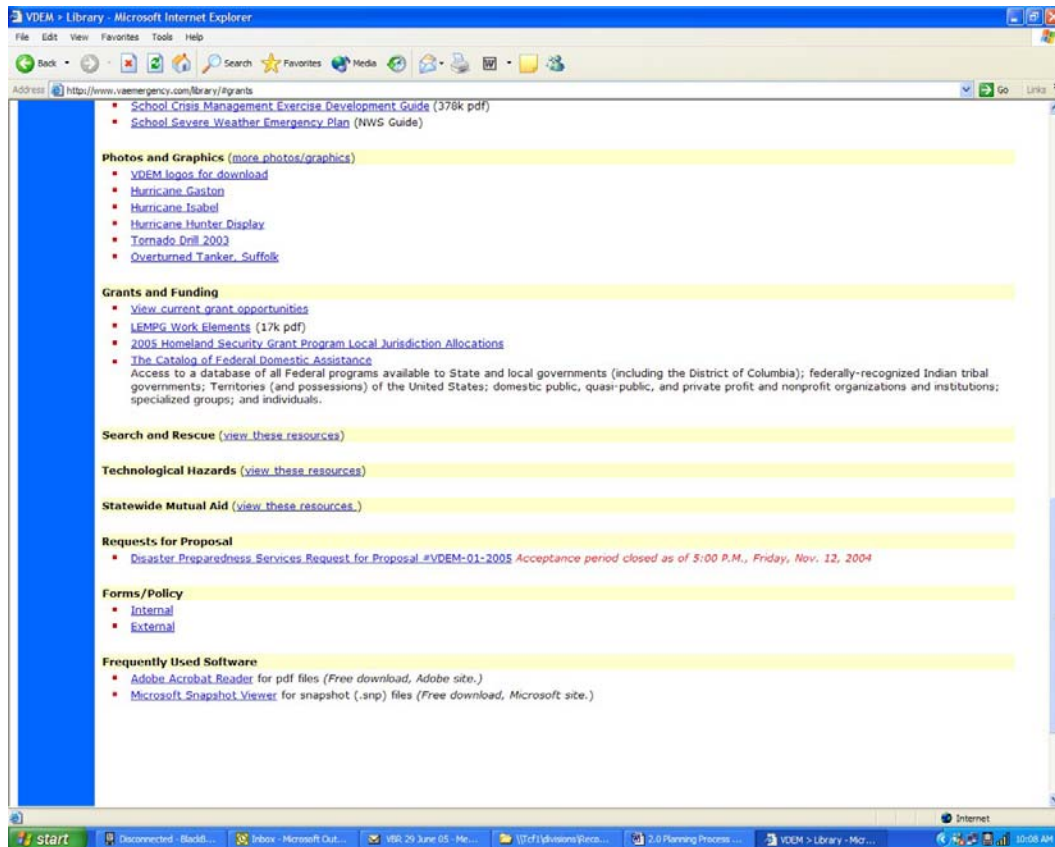
As described in the Administration Plan and conducted through the Joint Field Office for HMGP applications or through a Request for Proposals process for Pre-Disaster Mitigation or Flood Mitigation Assistance Programs, VDEM conducts a structured grant application process, as depicted by the following table:

Table 7-2 Project Timeline		
Activity	Communication	Responsibility
1. VDEM analysis of grant guidance, set priorities, set application schedule, etc.		VDEM Staff
2. Announcement of period of availability for pre- or full applications; including application form, guidance, mitigation priorities, location(s) of applicant's briefings.	Formal letter, email, VDEM website	VDEM Staff



3.	Date stamp pre- or full applications as received. All applications for eligible activities received post-deadline are held for future funding.	N/A	VDEM Staff
4.	VDEM application review for project eligibility, application completeness.	N/A	VDEM Staff
5.	VDEM comments on ineligible projects with suggestions for modification for future consideration	Letter	Hazard Mitigation Program Manager
6.	VDEM performance of BCA	BCA modules	VDEM Staff
7.	Project prioritization	Meeting, conference call	Multi-agency Structural Mitigation Sub-committee
8.	VDEM finalize applications	NEMIS and eGRANTS sub-grant and grant application data entry	VDEM Staff
10.	FEMA/VDEM Award	Letter and contractual agreement	VDEM State Coordinator
11.	VDEM Project Award Meeting	Project site meeting to reinforce project management procedures	VDEM Project Specialists and Sub-grantee project management team
12.	Project monitoring	Monthly calls or visits to verify project progress, need for substitutions, extensions.	VDEM project Specialists and Sub-grantee
13.	Quarterly Reports	Email and written notification	VDEM Project Specialists
14.	Project Close-out	Written notification; submittal of financial report; site visit to confirm on-site mitigation, photos, GPS, deeds of trust; final project close out; de-obligation of funds.	VDEM Project Coordinator, Project Specialists, VDEM Finance Officers, FEMA, Sub-grantee

The VDEM website contains a grants database area that updates available mitigation grant programs.



Screen capture: Grants and Funding Section of VDEM Website.

VDEM strives to submit HMGP projects within the 12-month Period of Availability (POA) following the Presidential disaster declaration. Exceptions such as DR-1491-VA and DR-1544-VA occurred due to project workload and the continual challenge to process a large volume of complex, expensive projects with available funds. In all instances requests to FEMA Region III for allowable ninety-day extensions of the Period of Availability have been submitted with full explanation of the circumstances requiring the extension request. These requests have been submitted to FEMA Region III at least sixty days before the end of the POA.

VDEM has developed in-house capability to enter HMGP project applications into NEMIS and has done so since August, 2004. Essentially, Isabel Phase I and II structural projects and all 1500-series HMGP projects have been entered into NEMIS by VDEM staff. VDEM used eGrants for PDM 04-05 and FMA 05. Due to continued eGrants program problems, VDEM will continue to enter all sub-applications as well as grant applications. Mitigation staff has been trained in the use of these on-line grant management systems and have project data entry ability.

Environmental and Historic Review

The Commonwealth's mitigation project applications address potential environmental and historic issues through elements of the HMGP/FMA application and existing state capabilities. The Grants application used for PDM and FMA also checks historic and environmental issues. FEMA is the sole responsible agency to conduct and make final determinations with regard to the National Environmental Policy Act (NEPA)



requirements for environmental and historic reviews. At this time, FEMA does not have the authority to devolve this responsibility to the Commonwealth. However, to create an enhanced approach to the NEPA requirements for historic issues, a Programmatic Agreement between FEMA, VDEM and the Virginia Department of Historic Resources (DHR) was signed in 2003.

Specifically, the agreement acknowledges that implementation of these programs will be more effective with an agreement in place to define the roles and responsibilities with regard to the National Historic Preservation Act (NHPA) Section 106 review process. The agreement applies only to properties that retain National Register integrity pursuant to 36 CFR Part 60. In the event of a disaster, FEMA will meet with the State Historic Preservation Officer (SHPO) and VDEM to establish points of contact and protocols for the implementation of the agreement. SHPO and VDEM will attend a historic scoping meeting where FEMA and VDEM will provide guidance on program issues and processes.

As stated in the agreement, VDEM responsibilities are as follows:

"VDEM, as Grantee, will ensure that all Sub-grantees are fully informed as to their responsibilities. This includes providing them with guidance about in-kind repairs, pursuant to the Secretary of the Interior's Standards, and ensuring that Sub-grantees understand and acknowledge any additional stipulations that may be placed upon repair, restoration, or hazard mitigation projects as a result of Section 106 consultation or other means of compliance as provided for in this Agreement. VDEM also will ensure that Sub-grantees understand that failure to comply with the terms of this Agreement could jeopardize FEMA participation in the project."

VDEM Hazard Mitigation Section supervisors have acquired certificates for IS-253 'Coordinating Environmental and Historic Preservation Compliance'. VDEM also has in-house capability through an Environmental Program Manager position. VDEM Hazard Mitigation staff will coordinate project development with this position, FEMA and the SHPO. The Environmental Program Manager and Mitigation Section staff will also participate in JFO briefings and project review meetings to assist in evaluating compliance with NHPA Section 106.

For consistency with NEPA requirements for environmental reviews, the Commonwealth of Virginia has state statutes and regulations providing the necessary authorities to various state agencies for addressing issues related to water quality, hazardous waste, air quality, endangered species, wetlands, fisheries management, etc. Many of these activities reflect the assumption of responsibility and permitting authority from a federal agency, such as wetlands permits and water quality certifications.

The National Environmental Policy Act, enacted in 1969, requires preparation of environmental documents for certain categories of federal projects and requires opportunity for review by state and local governments as well as for public participation. In accordance with the Code of Virginia § 10.1-1183, the Virginia Department of Environmental Quality (DEQ) coordinates the Commonwealth's review of National Environmental Policy Act documents. Interagency project reviews are conducted by the Departments of Agriculture and Consumer Services, Conservation and Recreation, Environmental Quality, Forestry, Game and Inland Fisheries, Health, Historic Resources, and the Virginia Marine Resources Commission. Other entities function as cooperating partners (see Figure 7-3).

The Office of Environmental Impact Review (EIR) at DEQ coordinates the Commonwealth's response to environmental documents for proposed state and federal



projects. The environmental impact review staff distributes documents to appropriate state agencies, planning districts and localities for their review and comment.

Other types of state reviews coordinated by EIR include permits for operation or expansion of public airports or landing fields. These projects require an environmental document, public notice and review. In addition, exploration for and extraction of minerals on state-owned lands and application for drilling permits in the Tidewater area require environmental impact statements. Similarly, EIR coordinates with the State Corporation Commission to review environmental reports for proposed power plants. Highway projects are handled exclusively by the Department of Transportation.

Since NEPA requires environmental impact statements or environmental assessments for certain classes of federal projects and actions, EIR participates in three phases of the National Environmental Policy Act review process: scoping, draft document review and final document review. The office coordinates federal intergovernmental review for all federal actions and locally sponsored projects that are federally funded.

Also, all federal actions and programs that directly affect Virginia's coastal zone must be carried out in a manner that is consistent with Virginia's Coastal Resources Management Program. EIR may review federal projects for consistency during the NEPA process. At the federal level, the National Oceanic and Atmospheric Administration, through its Office of Ocean and Coastal Resource Management oversees DEQ's use of consistency, mediates consistency disputes, and processes appeals to the Secretary of Commerce.

Pursuant to the Coastal Zone Management Act, in 1986, the National Oceanic and Atmospheric Administration approved the Virginia Coastal Resources Management Program. Accordingly, federal activities which are reasonably likely to affect any land or water use or natural resources of Virginia's designated coastal resources management area must be consistent with the enforceable policies of the Virginia Coastal Resources Management Program.

The Virginia Coastal Resources Management Program is a networked program with several agencies administering the enforceable policies; Virginia also has several advisory policies which were established to serve as a discretionary guide during project planning. The DEQ, as the lead agency for the Virginia Coastal Resources Management Program, is responsible for coordinating the Commonwealth's review of federal consistency determinations and certifications with cooperating agencies and responding to the appropriate federal agency or applicant.



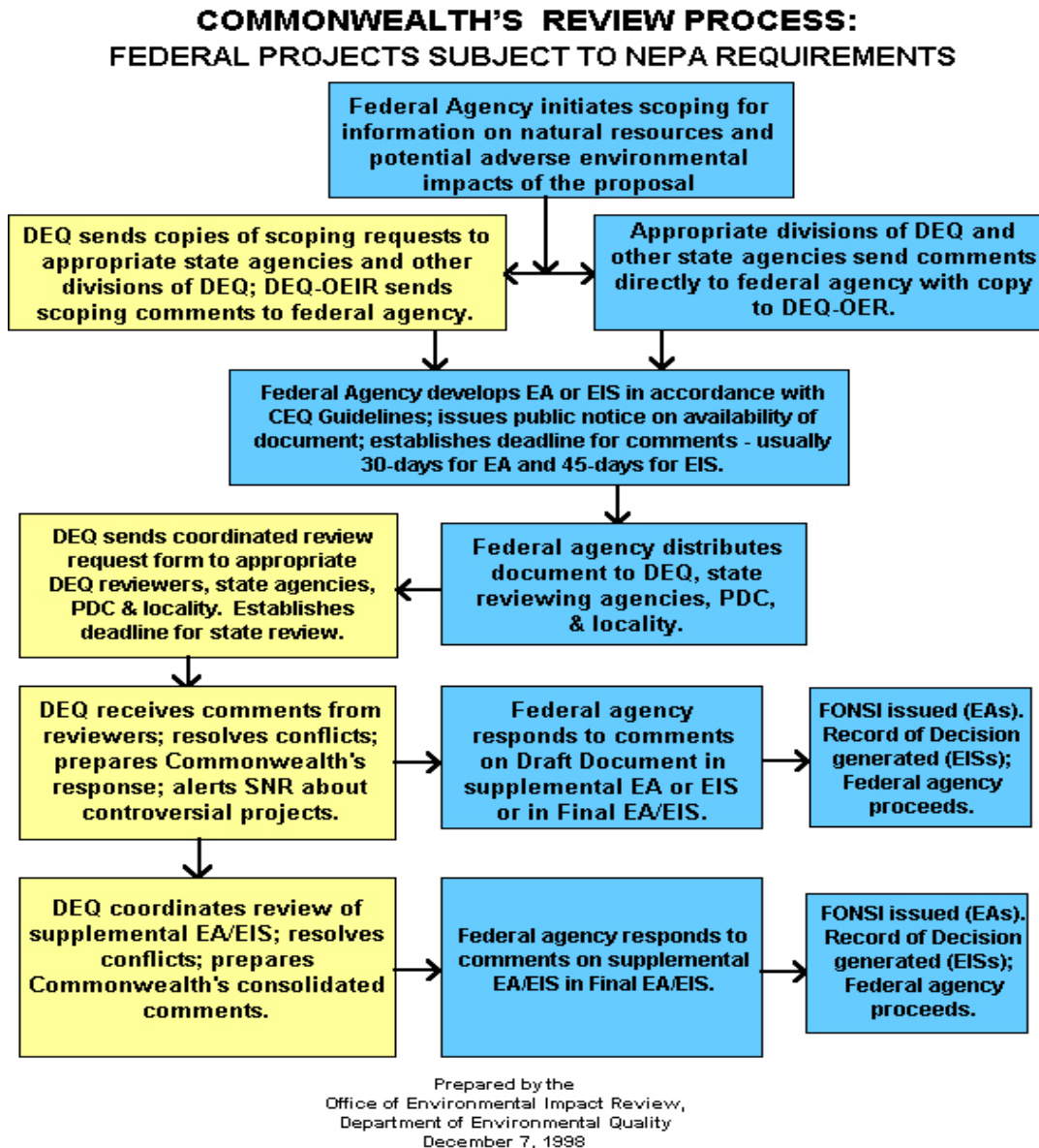


Figure 7-3 – Commonwealth of Virginia Project NEPA Review Process

The application addresses issues of Environmental Justice and requires documentation that public participation was conducted. The application also provides all relevant state and federal environmental and historic code references, due process, and project and regulatory compliance assurances by the applicant.

Benefit Cost Analysis

The Commonwealth's Hazard Mitigation Program has developed in-house capacity to perform structural benefit-cost analysis using the FEMA Benefit-Cost Module. This program capacity began with the current Hazard Mitigation Program Manager and the Project Coordinator successfully completing the BCA course at the Emergency Management Institute in December 4 - 6, 2002. FEMA provided BCA training to VDEM in December, 2004 in conjunction with the PDM 04-05 program. The Project Coordinator

and three project specialists received the training. One of those employees left VDEM, one was promoted to Planning Coordinator and one remains with the grant program.

During July and August, 2005, VDEM sponsored a series of three Project Development Workshops for VDEM and potential project sponsors in Richmond, Chesapeake and Abingdon at the request of a local project sponsor frustrated by development of projects that could not achieve a positive benefit-cost ratio. The workshop was developed to provide students with a strong foundation in the principles of mitigation relative to flooding, hurricane and other hazards. Since the concepts of benefit cost analysis mimic these principles, VDEM hired Dewberry to conduct the full two-day FEMA BCA training to support the workshops. Nearly sixty attended the workshops, including all new VDEM mitigation staff that had not already been trained. Appendix 2 provides examples of a variety of BCAs performed by VDEM staff.

Participant comments were extremely positive. In fact, at one session the Bluefield Town Manager commented that "...the room should be full, I can't understand why potential project sponsors aren't here." VDEM will continue to offer such training on an as-needed basis to support HMGP during significant disasters, future Pre-disaster Mitigation Program project development, or as local project sponsors request assistance.



Ted Van Kirk of Dewberry; Richmond Project Development Workshop, July, 2005

Currently, the division director, program manager, grant coordinator, planning coordinator, two planning specialists and two project specialists have received benefit-cost training. Four members of the Mitigation Program staff have experience in performing benefit-cost analysis and examples of BCAs conducted by VDEM for HMGP projects successfully funded and denied are included in Enhanced Appendix 2. VDEM staff has been trained in the riverine modules, but also the coastal A, coastal V, and hurricane wind modules. In addition, several VDEM staff and Department of Forestry staff have been trained in the wildfire module. VDEM has knowledge in conducting all levels of the riverine flood modules, including full data, limited data, and very limited data. VDEM uses the full data module first, followed by the limited data module if the full data module is unable to produce proper benefits for a project to pass and sufficient flood history is available. In many cases, flood history is unavailable; therefore utilization of this module is impossible. When flood data is available, this module has aided in the successful positive benefit-cost ratio for over half of those that proved non-cost beneficial with the full-data module. VDEM staff is confident in their knowledge of the coastal A and V-zone modules and use these modules regularly in benefit cost determination. Project specialists have also performed BCAs on a structural non-residential flood proofing projects.

The Commonwealth of Virginia does limited non-acquisition/elevation structural projects, but the staff has been able to quickly pick up on the nuances of the appropriate BCA modules and has the capacity to complete these analyses. Staff uses the BCA hotline when technical questions beyond their working knowledge must be addressed. In addition, Dewberry and Virginia Tech are available to provide contractual BCA technical assistance as needed to VDEM staff. URS declined provision of this service to VDEM due to HMTAP conflicts.

7.2.2.3 Program Management Capability - 201.5(b)(2)(iii)

The following section addresses the requirements of the Enhanced Plan regarding grant project management. It is organized specific to the Federal Code of Regulations language, *the Enhanced Plan must document that the State has the capability to effectively manage the HMGP as well as other mitigation grant programs, [and provide] a record of the following...*

Standard business practices, as dictated by the Virginia Administrative Process Act are used to implement all grant programs at VDEM. VDEM mitigation grant programs have stood up well to rigorous state and federal grant program audits through the years. More information on these requirements can be made available upon request.

A. Application Process - 201.5(b)(2)(iii)(A)

During the past three years, encompassing the Hazard Mitigation Grant Program (HMGP) for DR-1491-VA, DR-1502-VA, DR-1525-VA, DR-1544-VA, DR-1570-VA, DR-1655-VA and DR-1661-VA; Pre-disaster Mitigation Program (PDM) 04, 05, and 06 and Flood Mitigation Assistance Program (FMA) 2005 and 2006, the Commonwealth has strived to improve sub-grantee project applications. In the past, the Commonwealth did not have staff capacity to fully review and screen applications for eligibility or completeness, nor to complete digital project entry and benefit-cost analysis. With complete program re-organization and augmentation, as demonstrated on the Recovery and Mitigation Organization Chart, HMGP project applications are fully screened and have been provided to the Region following NEMIS data entry completion. In addition, as previously documented, the Commonwealth has developed capacity to provide NEMIS data input and to perform or contract benefit-cost analysis. Project applications and documents that support the application process, as well as tables depicting funding for many recent disasters, may be found in Appendix 3.

The project review process follows a rigorous protocol designed to evaluate and track eligibility, benefit cost, funding levels, project time frames, and reasons for denying an application. Many projects submitted to VDEM do not make it to FEMA for review because the VDEM application screening process eliminates those deemed unsuitable for further consideration. For example, of the 105 projects submitted for DR-1491 Hurricane Isabel, 40 projects (38%) were deemed ineligible and not submitted to FEMA. The Commonwealth Project Review Process is charted in Figures 7-4 and 7-5.

Similar to other states, VDEM may request FEMA technical assistance for complex projects. However, the majority of projects reviewed by VDEM do not exceed the technical capabilities of the VDEM staff. Only 5% of 40 projects VDEM deemed not eligible for DR-1491 funding required FEMA technical assistance. VDEM staff has extensive knowledge regarding project effectiveness, project scoping, natural resources issues, project management, and grants management. The Commonwealth of Virginia has prioritized mitigation grant



projects for funding for many years. Each grant program has different requirements and in many cases, different ranking systems; these ranking systems have evolved and changed due to the situation or disaster that the grant is addressing. All applications must be must be determined eligible by the constraints of the specific mitigation grant program that the project is applying for funds before the application is put into the ranking process.



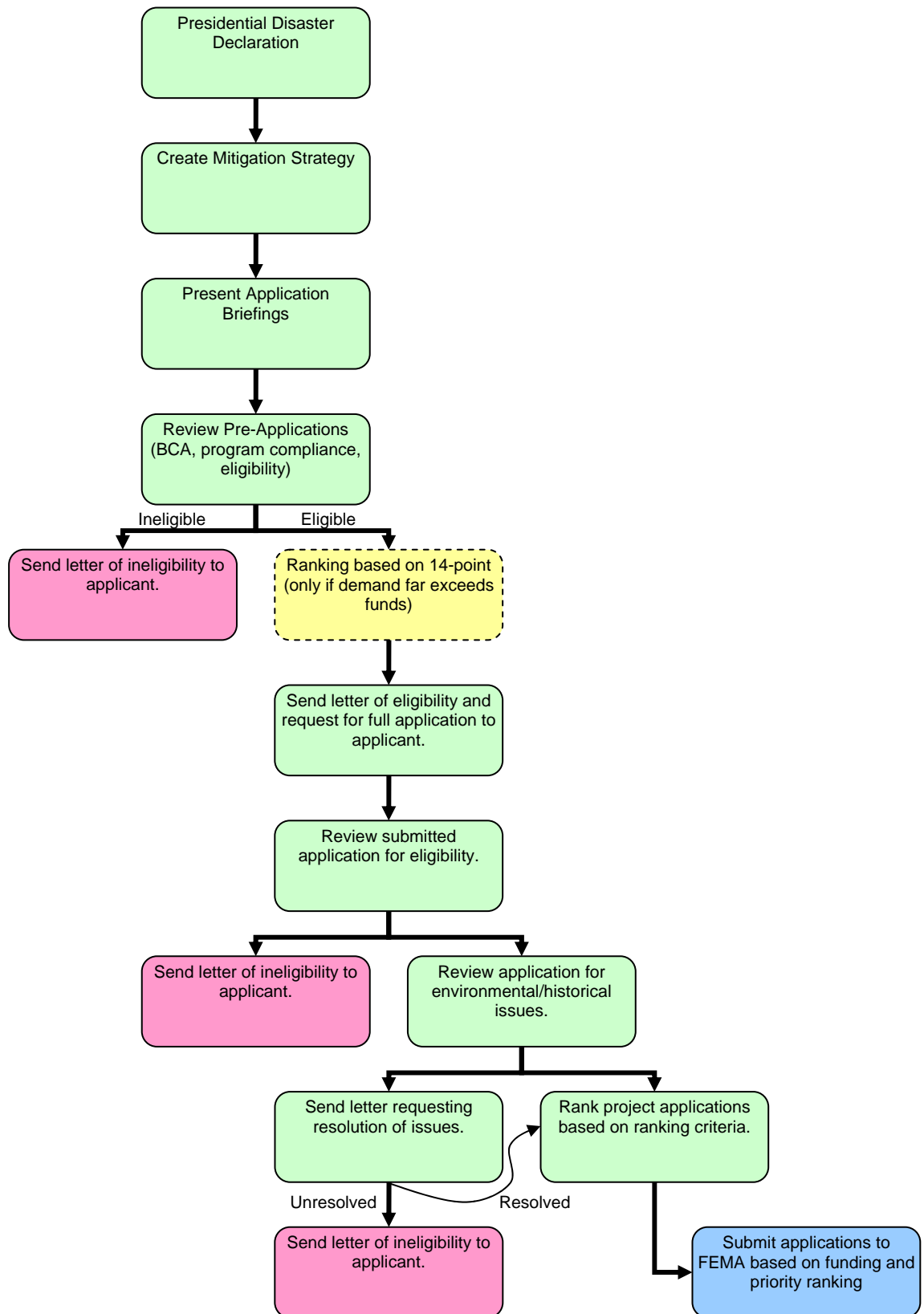
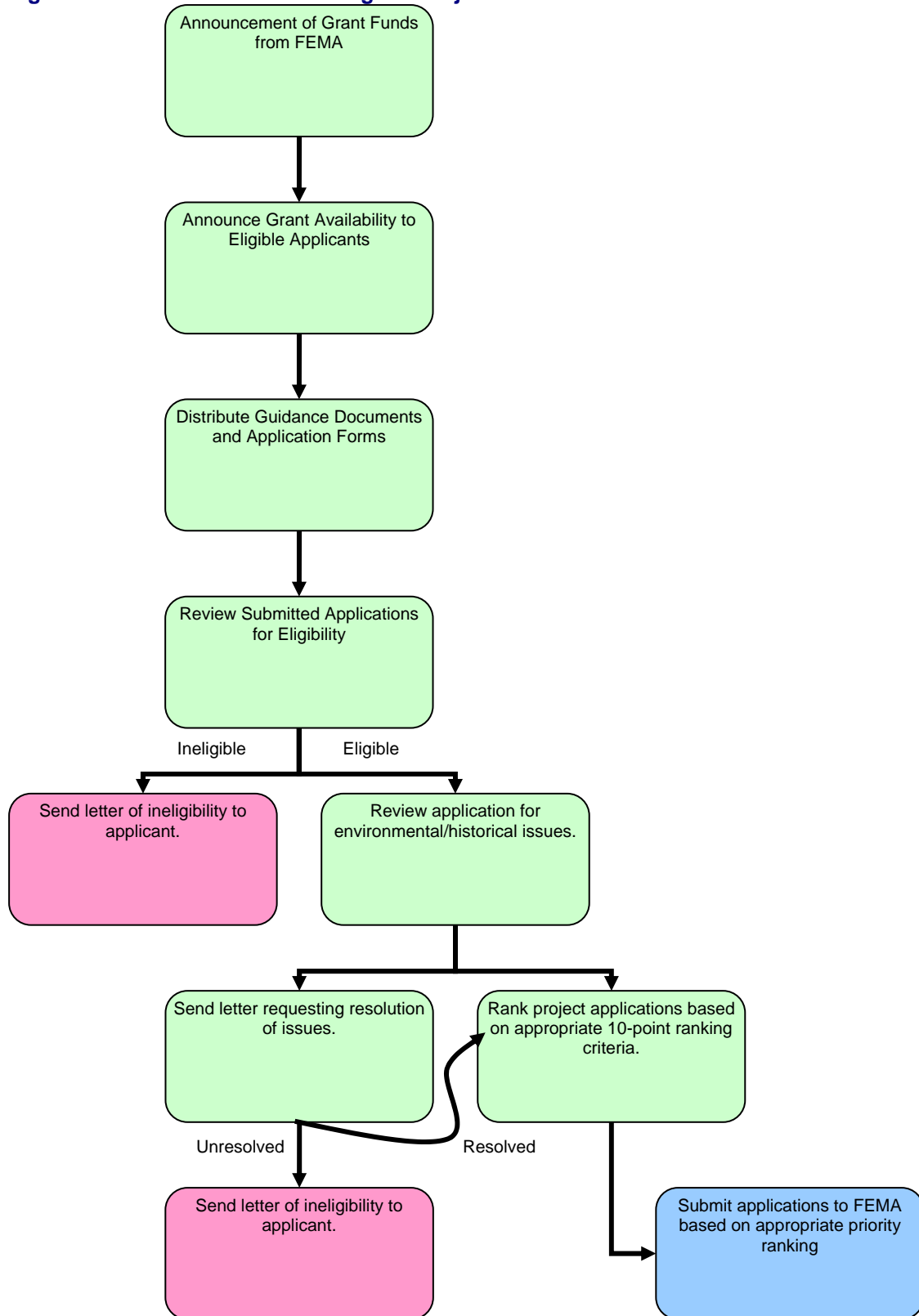


Figure 7-4 – Commonwealth of Virginia Project Review Process for HMGP



**Figure 7-5 – Commonwealth of Virginia Project Review Process for PDM, FMA, RFC, and SRL
Hazard Mitigation Grant Program**

The Hazard Mitigation Grant Program is, at this time, the Commonwealth's largest funding source for mitigation grant projects. This funding source is Commonwealth-competitive, but 100% of the funds remain within the state. Competition for these funds can be very extreme after federally declared disasters and therefore ranking is crucial.

The Commonwealth of Virginia Emergency Operation Plan Volume 2, Support Annex 3: Standard Hazard Mitigation Plan has four goal areas for the Commonwealth. While the goals and objectives were determined in the context of state agency programs and mitigation of state structural assets, implementation of the Structural Mitigation goal and some of its objectives has been supported through the following grant programs which are described below. Table 7.3 lists the structural mitigation goal and its objectives and some of the projects which have supported accomplishment of the structural mitigation goal, objectives and strategies.

Table 7. 3 Implementation of Standard Plan Structural Mitigation Objectives	
<i>GOAL: Identify and implement physical projects that will directly reduce impacts from hazards</i>	
Objective	Projects Accomplished 2004 - 2006
Obj. 1 Continue implementation of warning and detection systems to notify the Commonwealth of impending hazards	<ol style="list-style-type: none"> 1. IFLOWS river warning station funded with HGMP on the Rappahannock River upstream of Fredericksburg 2. Potential project for IFLOWS station on the Blackwater River upstream of Franklin
Obj. 2 Elevate, retrofit and relocate existing structures and facilities in vulnerable locations	<ol style="list-style-type: none"> 1. More than 300 residential structures and several non-residential structures have been or are scheduled for acquisition/demolition, elevation or relocation using HMGP and FMA funds since 2004.
Obj. 3 Construct hazard resistant buildings and infrastructure	<ol style="list-style-type: none"> 1. DRU plans for seven universities have been completed or are underway that target construction of hazard resistant buildings and infrastructure.
Obj. 4 Modify the geographic setting near structures to reduce exposure to hazards.	<ol style="list-style-type: none"> 1. The newly funded US Army Corps of Engineers Roanoke River Flood Protection Project will include a floodwall as well as removal of flood-prone structures through acquisition and condemnation to create a river corridor park. 2. State agencies and universities continue to seek disaster "hardening" projects in their long-term capital improvement planning. This has been reinforced by COOP planning.
Obj. 5 Require emergency utilities systems and redundant communications systems for functionally critical facilities.	<ol style="list-style-type: none"> 1. This is being addressed through COOP planning and capital improvement planning. COOP planning is required for critical state agencies per a Governor's Executive Order.
Obj. 6 Implement "in place" contracts to provide mitigation measures for functionally critical	<ol style="list-style-type: none"> 1. Progress is anticipated as COOP plans are implemented.



facilities.	
Obj. 7 Maintain Continuity of Operation of critical facilities through reduction of hazard impacts on communication networks and information infrastructure.	<ol style="list-style-type: none"> 1. Numerous projects were funded after 9-11-01 in Arlington to prevent human-caused hazards. Two projects were funded through Isabel during the period through HGMP to "harden" local EOCs. 2. Several other projects supported emergency generator hook-up wiring which will provide communications redundancy.
Obj. 8 Gather information on mitigation effectiveness	<ol style="list-style-type: none"> 1. The cost avoidance protocol described in this plan was used to calculate loss-avoidance for the Town of Bluefield. A mitigation project database was established that will allow continued tracking of damages avoided as disasters occur. 2. Success stories continue to be produced as opportunities allow promoting the benefits of mitigation measures.

Figure 7-4 shows the program implementation process that the Commonwealth follows. The following paragraphs will explain the different ranking systems that were used during the implementation of some of the most recent Hazard Mitigation Grant Program implementations.

DR-1458: Winter Storm/Flooding 2003

During the response to DR-1458, with less than \$400,000 of federal share projected, more than \$8.6M federal share was requested through pre-applications. The State Hazard Mitigation Committee met to review each pre-application for ranking. This was a brainstorming session of several key state agencies integrated with VDEM mitigation staff. Projects were ranked based on priority given to the project type within the mitigation strategy for the disaster, number of structures protected for amount requested, and usefulness of completed project. Once ranked, thirteen (eleven structural, one 5% initiative, one 7% planning) project applicants were asked to submit full project applications for a total of \$4M in federal funds. Of the applications submitted, five were denied (one based on eligibility and four on low BCA) and six were approved for funding (one in another disaster). Slightly more than \$1M federal share was obligated for this disaster with a final lock-in at \$1.17M. Two projects were never submitted as full applications.

DR-1491: Hurricane Isabel

During the response to DR-1491, the Commonwealth struggled with continual concerns regarding the funding amount that would be available for the Hazard Mitigation Grant Program. With the first request for pre-applications, due less than three months after impact, 220 pre-applications equaling over \$118M (\$89M federal share) were received. These pre-applications were quickly sorted by project type (structural, 5%, 7%, non-declared localities, generators, late) and eligibility. With an initial estimate nearing \$8M, it was determined that only those projects that fell within the first two priorities within the State Mitigation Strategy for DR-1491 could be addressed. Therefore, only projects that addressed the



acquisition and/or demolition of residential structures were requested to complete a full application. Also, local all hazard mitigation plans were given top priority and full applications from all communities wishing to complete an all hazard mitigation plan were accepted. Funding caps were put in place to insure fair and equal use of the potential 7% funds. All other eligible project pre-applications were placed in holding for future reference in the case of additional or unused funds.

Once applications came in for the acquisition and elevation projects, many, unfortunately, could not pass BCA. All "Phase I" projects that passed BCA and were eligible for HMGP funds were submitted to FEMA Region III for approval and award.

During the time of the Phase I application period, additional funds had been obligated to the HMGP through the disaster bringing the total federal share available to more than \$19M federal share. Therefore, using the additional eligible pre-applications, applicants were contacted for full applications. The application period was reopened until mid-August to receive additional project applications. Additional approvable (eligible with a positive BCA if necessary) projects were funded by priority within the State Mitigation Strategy and as funds were available to support the additional project.

During the recovery to Hurricane Isabel, the Commonwealth's mitigation staff began completing, documenting and reviewing Benefits Cost Analyses internally prior to submission to FEMA. Nearly 50% of all application BCAs were performed by VDEM staff prior to submission; all other projects' BCAs were performed prior to submission by FEMA DAE staff based in the Richmond VDEM office.

DR-1502: Southwest Virginia Floods 2003

These Southwest Virginia floods came immediately upon the heels of DR-1491, Hurricane Isabel. The DR-1502 event was an Individual Assistance only presidential declaration. With the large unmet need to handle in the wake of Hurricane Isabel and such a low potential grant obligation for DR-1502, it was determined that pre-identified projects would be targeted with these funds to fulfill the obligation of funds (less the \$200,000) available for DR-1502. In all, only three projects were funded for a total potential mitigation of three structures.

DR-1525: Spring 2004 Southwest Virginia Floods

DR-1525 was an Individual Assistance only presidential declaration. This meant that once again, the available funds for HMGP would be very limited; the final lock-in was even less funding than DR-1502 (less than \$150,000). Pre-identified, unfunded projects from the Hurricane Isabel application process were used to fulfill the obligation of these funds available in DR-1525. In all, only two projects were funded – one structural and one training/awareness.

DR-1544: Tropical Depression Gaston

In recovery from Tropical Depression Gaston, the Commonwealth put a heavy emphasis on Section 406 (Public Assistance) mitigation projects. Many issues that came up in response to this storm were infrastructure related, and it was the hope that many issues could be addressed and mitigated through the FEMA 406 Program. Another problem that came to light during the recovery from Gaston was the impact of flooding to several mobile home parks in the central Virginia region. Therefore the top priority for funding through the HMGP was acquisition/demolition of these residences and the mobile home parks.



After the initial advertisement of the grant and request for pre-applications, only eighteen pre-applications were received, of which only five were eligible grant projects. Most were great projects but were 406 Program specific. The five eligible pre-application applicants were requested to submit full project applications, and all five applications were received in full and reviewed by VDEM staff. Of the five, four could be funded; one was denied due to a BCA > 1.0.

With the remaining funds within the grant, pre-identified, unfunded projects from the Hurricane Isabel process were submitted for FEMA approval. In all, eleven applications were funded through this disaster (one planning project, one 5% project, and nine structural projects).

DR-1570: Tropical Depression Jeanne

DR-1570 was an Individual Assistance-only presidential declaration. Estimated HMGP grant funds for this disaster were expected to be less than \$200,000. Fifty-nine pre-applications were received from six localities equaling more than \$175M. Only four pre-applications were determined as ineligible project types. Due to the insufficient funding, the Commonwealth decided to only partially address the top two priorities as listed in the disaster's Mitigation Strategy as well as use the 5% initiative funds. Only four communities had projects that were small enough in scope to fit within cost constraints of the grant. These four applicants were requested to submit full applications for HMGP. All other eligible project applicants were requested to work with their VDEM Project Specialist to develop their applications for potential funding through the Pre-Disaster Mitigation Grant Program. Three projects were funded under this disaster (two structural and one 5%); one structural project was denied due to low BCA as determined by VDEM mitigation staff.

DR-1655: Severe Weather

VDEM is currently working on recovery from DR-1655. At this time the Commonwealth has received and reviewed twenty-one pre-applications, of which seven were determined ineligible for HMGP funding. It was determined that the Commonwealth would not eliminate eligible pre-applications because cost estimates did not overwhelmingly exceed potential funds. It was also determined that those applications submitted and unable to receive funding through this grant would become "shelf" applications for potential future funding. Therefore, all eligible pre-applicants have been requested to complete full project applications for submission to the Commonwealth no later than November 30, 2006. At that time, VDEM will complete a full review of the applications, including eligibility and benefit-cost. Once the project has been determined fully eligible for funding and dependent upon the number of eligible projects (and their costs), all bricks and mortar and 5% projects will be reviewed and ranked by the Structural Mitigation Subcommittee using the HMGP project ranking system as seen in Appendix 3-Application Process. All 7% planning projects will be reviewed and ranked by the Mitigation Plans, Policy, and Funding Subcommittee using the HMGP planning ranking system as seen in the Appendix 3. Projects will then be submitted to FEMA as funds are available.

DR-1661: Tropical Storm Ernesto

VDEM has just received this disaster declaration. The mitigation staff plans to administer this HMGP grant similar to DR-1655.



Pre-Disaster Mitigation Grant Program

The Commonwealth of Virginia has participated and successfully received funding for several Pre-Disaster Mitigation Grant Program projects since the program's inception in 2001.

PDM 2001

In 2001, VDEM received the initial start-up grant (a \$50,000 allocation to each state – non-competitive) and used this funding to prepare the Commonwealth and its localities for the full implementation of the PDM grant in 2002. VDEM split the funds between the mitigation program within the agency and the National Flood Insurance Program at the Department of Conservation and Recreation. Funds were not released outside of these two agencies and therefore ranking of projects was not required.

PDM 2002

In 2002, the Commonwealth was allocated \$417,000 (non-competitive) for the grant year. After several years of repetitive flooding in the southwest Virginia communities, it was determined that all funds (minus a small portion of management costs to support the Commonwealth's mitigation staff at VDEM) would be used to support development of \$322 all-hazard mitigation plans in Southwest Virginia. Five planning district commissions were approached to determine interest in completing these plans for the communities within their regions. Each agreed to sponsor a \$322 all-hazard mitigation plan, thus five planning projects and one management project were submitted to FEMA for approval.

PDM 2003

In 2003, the Commonwealth was allocated \$248,375 (non-competitive) in all-hazard mitigation planning funds through the PDM program. Non-planning grants for PDM became competitive nationwide during this grant cycle. Also, this grant year introduced the concept of the Disaster Resistant Universities (DRU), and the program set aside funds within the nationally competitive portion of the funding allocation to support the DRU concept.

To continue the effort in all-hazard mitigation planning, VDEM mitigation staff reviewed remaining non-planned regions (through planning district commission boundaries) to determine the priority of allocation of funding sources by community hazard vulnerability. Therefore, due to overall community vulnerability to hazards, three additional planning district commissions were selected to receive the PDM 2003 planning allocation funds.

All universities within the Commonwealth were directly notified of the availability of the Disaster Resistant University grant and were encouraged to apply. The Commonwealth received five Disaster Resistant University plan applications and all were submitted to FEMA. These applications were ranked when submitted to FEMA based upon the vulnerability of the university to the local hazards surrounding it.

Due to time constraints and Hurricane Isabel, the Commonwealth was unable to submit any non-planning projects within the PDM 2003 grant cycle.

PDM 2004-2005

In 2005, the Pre-Disaster Mitigation Grant Program became fully nationally competitive. Grant guidance and requirements became very stringent and grant



applications became very time-consuming to complete. Due to the non-federal match requirement, of which the state did not contribute, and the extremely short application period for the grant, many of Virginia's communities were unable to participate in this PDM grant cycle.

All remaining communities that were unfunded for all-hazard mitigation planning after the PDM 2003 funding cycle were funded through the Hazard Mitigation Grant Program in response to Hurricane Isabel (DR-1491). Therefore, Commonwealth local governments were notified of the availability of the PDM 2005 grant funds, and VDEM only received two grant applications total for the grant year – one Disaster Resistant University (DRU) planning project and one local 322 planning update project. Both grant applications were submitted to FEMA, giving priority to the DRU project). Both projects were approved and funded through the grant year cycle.

PDM 2006

In 2006, the Commonwealth of Virginia received and submitted its first grouping of non-planning PDM grant projects. Once again, the Commonwealth advertised the release of the 2006 PDM grant to all Commonwealth jurisdictions. Many communities were not eligible for the grant since their 322 plans were not approved, prior to the national ranking committee meeting. Five grant applications were received; four structural and one planning. All were reviewed by the VDEM mitigation staff; one was denied due to the planning status of the applicant. All remaining applications were reviewed by the Structural Mitigation Sub-committee and ranked based on open discussion within the group. All four applications were submitted to FEMA, but only the planning project was approved for funding. The unfunded grant applications will be resubmitted during the PDM 2007 grant cycle if the project sponsor is still interested in project funding.

PDM 2007

The Commonwealth received numerous applications for the FY 2007 PDM program. Once benefit-cost analysis was performed, three structural projects appeared to be eligible. The Structural Mitigation Committee reviewed and ranked the projects and they were subsequently submitted via the eGRANTS system. They were not selected for funding through the national review process.

PDM 2008

For the FY 2008 PDM Program, several applications were received but following evaluation by VDEM staff it was determined that several applications were incomplete. The sub-grantees withdrew the applications because there was not enough time to do the research and design work necessary to complete the application. One planning application was submitted, along with three "Legislative-PDM" planning applications and one "Legislative-PDM" structural application. The Structural Mitigation Committee did meet to discuss the project applications and a Repetitive Flood Claims Program application for FY08.

Flood Mitigation Assistance Program

The Flood Mitigation Assistance Program (FMA) grant is received yearly in the Commonwealth. The obligation of these funds to the Commonwealth has occurred in a very informal format through e-mail; therefore the Commonwealth does not have record of the exact funds obligated. This obligation e-mail was kept for the FMA 2006 funding and will continue to be saved and recorded for



future tracking purposes. Funds that were expended and obligations that have been recorded have been tracked and can be reviewed in Enhanced Appendix 3.

Unfortunately, due to the FMA program planning requirement, rotation period, low funding value, lack of state match, and requirement for current flood insurance, the Commonwealth has had years where it has been unable to find a project to implement with the funds. The FMA grant in Virginia is unique, as that it is in general a pre-determined project that is hand-selected by the Commonwealth VDEM mitigation staff. To meet all of the requirements of the grant, careful internal project selection by VDEM program managers is appropriate and efficient. Since only hand-selected projects are asked to submit applications, ranking is not necessary for this grant. All projects selected fit within the funding allocation for the grant year cycle. A summary of recent FMA project award activity may be found in Appendix 3.

Repetitive Flood Claims Program

The Repetitive Flood Claims Program (RFC) is a newly created FEMA grant program to specifically target NFIP insured repetitive loss properties. Repetitive loss as defined by this grant is:

Residential properties (a) that have at least four (4) NFIP claim payments over \$5,000 each, when at least two (2) such claims have occurred within any 10-year period, and the cumulative amount of such claims payments exceeds \$20,000; or (b) for which at least two (2) separate claims payments have been made with the cumulative amount of such claims exceeding the value of the property.

Non-residential properties that meet the same claims thresholds as severe repetitive loss properties above are also eligible for RFC grants.

Not only must the property meet the definition as above, but each property is eligible only if the property can be proven cost beneficial using the FEMA benefit-cost models. Each property must be cost-beneficial individually. There are only two eligible project types for this grant: acquisition/demolition and acquisition/relocation. This grant is nationally competitive and the grantee is not required to prioritize projects. Projects are prioritized nationally to determine application funding with BCA being the dominant prioritization criteria.

Due to the very specific nature of this grant, VDEM mitigation staff directly contacts all communities with structures that are listed in BureauNet which meet the repetitive loss definition. The Commonwealth will review any and all applications received for acquisition/demolition or acquisition/relocation of any of these structures through the appropriate subgrantee. All applications are reviewed for completeness, eligibility of applicant, and cost-benefit. All applications that clear the review are submitted to FEMA for entry into the national competition for funds.

RFC funds were obtained for FY 2007 for acquisition of three residential structures and the associated land in Chesapeake, Virginia. An application is



pending for two residential acquisitions in Chesapeake for FY2008 funds. The Commonwealth will continue to target Repetitive Loss properties for structural mitigation, these properties will receive a higher priority ranking for being recognized on the FEMA Repetitive Flood Claims list.

Severe Repetitive Loss Program

In anticipation of program guidance release, the Department of Emergency Management marketed the SRL program along with FY 2008 Repetitive Flood Claims Program and Pre-disaster Mitigation Program through formal correspondence to city managers and county administrators during September 2007. Benefit-cost analysis and project development training was conducted for potential project sub-grantees during the first week of November, 2007. Preliminary releases of the 2007 Severe Repetitive Loss database were obtained and the VDEM Hazard Mitigation Program Manager obtained a user ID and access to the SQUANet database. A second mailing was sent to the CEOs of the thirty Virginia communities with severe repetitive loss properties included in the SQUANet database. Copies of this correspondence have been added to Appendix 3. VDEM requested that local staff verify the location of the properties and provide digital photography of the structures. Response to this request has been mixed.

In December, 2007, FEMA Region III and Headquarters staff provided a one-day training workshop to VDEM Hazard Mitigation staff on the new program and what was anticipated as the program guidance. VDEM requested that FEMA return to present the training to any interested Virginia SRL communities. That training was conducted on February 20, 2008. With extensive marketing, thirteen communities with SRL properties attended.

On January 14, 2008, FEMA officially released program guidance including the crosswalk and plan modification guidance to qualify for 90% federal funding for FY2008 SRL and FY2009 FMA funding. At this time, allocations were provided to some states, for FY 2008 the Commonwealth of Virginia was allotted \$1,604,019. Applications must be completed and entered into eGRANTS by May 30, 2008.

VDEM staff is working with three interested communities. At this writing, using traditional or alternate BCA methods only produces positive BCAs in one community of interest, the City of Salem. A property owner meeting was conducted in Salem on April 2, 2008. Several property owners were in attendance, along with Salem officials, FEMA Region III and HQ and VDEM hazard mitigation program staff. Two "consultations" have been conducted since the meeting.

VDEM continues to market the SRL program through modification of mitigation strategies in local and multi-jurisdictional all-hazard mitigation plans, through workshops and the e-newsletter "EM Update." Staff will continue to work with the SRL communities to verify property locations, damages, and potential project interest. Structural projects that are on the RFC and SRL lists will be given higher priority ranking due to the repetitive flood losses that these properties have experienced. An example of ranking criteria has been added to Appendix 3.



B. Environmental Review and Benefit-Cost Analysis - 201.5(b)(2)(iii)(B)

As detailed in the previous section, compliance with all federal and state environmental and historic statutes and regulations is initiated through the application process. VDEM staff coordinates with the FEMA Region III Environmental/Historic Preservation Compliance Officer, the State Historic Preservation Officer, other state agencies with permitting authority and Grants Management staff to ensure that proper documentation is achieved in all areas relevant to each project.

Staff has been preparing benefit-cost analysis reports since fall, 2004. VDEM staff for projects involving the acquisition & demolition or elevation of 148 structures has performed benefit-cost analyses to support the review of the thirty-six projects that included these 148 structures. An additional analysis was contracted with Dr. Shane Parson on a project that was denied by FEMA Region III. Several properties became eligible for funding once the BCA was re-visited. Enhanced Appendix 2 includes the EMI certification for Benefit-Cost Analysis: Entry Level Training for the Hazard Mitigation Program Manager; a comprehensive list of the 36 comprehensive project analyses performed by VDEM staff since the fall of 2004 and examples of five project application benefit-cost analyses:

Table 7-4 Benefit-Cost Analysis Examples; Enhanced Appendix 2

Project	Method	Module	Analyst	Result
Gloucester County Phase II – Residential	Riverine, Coastal A and Coastal V	Full Data	Debbie Messmer	Pass
Poquoson Residential Elevations	Riverine, Coastal A and Coastal V	Full Data	Debbie Messmer	Pass
Lancaster County Residential	Coastal A	Full Data	Hibak Hersi	Fail
Pulaski Critical Facilities Acquisition	Riverine	Full Data	Hibak Hersi	Fail
Roanoke County Acquisition of 1 Property	Riverine	Limited Data	Debbie Messmer	Pass

C. Quarterly Progress Reporting - 201.5(b)(2)(iii)(C)

Quarterly reports are requested of grant project sponsors (sub grantees) via email and a mailed quarterly report form. Quarterly reports are due to VDEM within 15-days following the end of the quarter, i.e. April 15, July 15, etc. All project sponsors who do not submit a quarterly report are contacted by telephone and email immediately after the fifteen-day deadline has passed. Progress report forms, modified during the past year to more accurately reflect structural mitigation progress, are compiled, entered into the Mitigation Program Project Database and provided to FEMA within 30-days of the immediate past quarter end date.

Quarterly progress report submittal dates for the past five years were:

Quarter	2001	2002	2003	2004	2005	2006
Jan 1 – Mar 31	4/20/2001	4/26/2002	4/16/2003	4/20/2004	4/14/2005	4/18/2006



April 1 – June 30	7/16/2001	7/29/2002	7/24/2003	7/13/2004	7/26/2005	7/19/2006
July 1 – Sept 30	10/30/2001	10/25/2002	10/25/2003	10/29/2004	10/21/2005	10/21/2006
Oct 1 – Dec 31	1/25/2002	1/29/2003	1/29/2004	1/19/2005	1/20/2006	

Examples of the Quarterly Report forms may be found in Enhanced Appendix 4. Financial quarterly report submittal dates mirror those for project progress reports within a few days for each quarter documented in the table.

D. Project Completion and Close-out - 201.5(b)(2)(iii)(D)

VDEM has a set procedure for the financial and programmatic closeout of all Mitigation Program grant projects including the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant Program and the Flood Mitigation Assistance Program. Each quarter, projects that are nearing their performance period end date (performance period end date within the next six months) are flagged. Formal contact is made to each sub-grantee to determine that the project completion schedule is still on target.

As projects are identified “complete” either through contact with the sub-grantee, review of quarterly reports or other means, VDEM Mitigation and Finance staff prepare a Locality Closeout Letter (see Enhanced Appendix 5, Attachment 1) to help the sub-grantee prepare for the state’s final site visit. Within this letter, the sub-grantee is asked to verify receipt of funds and expenditure of non-federal match (see Enhanced Appendix 5, Attachment 1a). Within two weeks of receipt of the closeout letter, VDEM mitigation staff contact the sub-grantee to schedule the final site visit.

The site visit includes a site inspection for mitigation program compliance, a review of financial records, and a review of programmatic records. VDEM staff takes digital pictures of each mitigation project structure during the visit and any other relevant areas that will be benefited by the mitigation project. Documents gathered during the site visit, if not previously submitted to VDEM, include:

- Digital photographs of mitigated structures, infrastructure, affected area;
- Signed verification of financial reconciliation between VDEM and the sub-grantee;
- Proof of match;
- Documents produced as defined within the Scope of Work;
- National Flood Insurance Program policy verification;
- Copies of deeds and restrictions on those deeds and;
- Other pertinent documents or information.

These documents are archived within the VDEM project file. Once VDEM Mitigation Program Staff are satisfied that all mitigation program compliance issues have been addressed, a State Closeout Letter is written to FEMA (see Enhanced Appendix 5, Attachment 2). This letter addresses the financial and programmatic completion of the individual project and requests de-obligation of unused funds. Once FEMA receives, reviews and completes the request for closeout for the specific project, VDEM sends a final announcement of closure to the sub-grantee (see Enhanced Appendix 5, Attachment 3).

Once all projects within a disaster (HMGP) or grant program fiscal year (FMA and PDM) are completed, the mitigation staff and finance staff conduct the final



disaster (grant) reconciliation. This reconciliation ensures complete expenditure of match and accurate resolution of grantee administrative funds. The financial database that is used by the VDEM Finance Division interacts with the Mitigation Database such that a comparison of transactions can be compiled for full resolution of the grant. Once the comparison of both databases becomes zero, finance staff processes the necessary documentation (see Enhanced Appendix 5, Attachment 4) for submittal to FEMA Region III.

Enhanced Appendix 5 – Close out includes the following closeout letters and forms.

- Attachment 1 – Locality Closeout Letter (Generic)
 - 1a – Locality Reconciliation Form
- Attachment 2 – State Closeout Letter Sample
 - 2a – State Reconciliation Form
- Attachment 3 – Final Announcement of Project Closure
- Attachment 4 – Disaster Closeout Letter
- Attachment 5 – Closeout Spreadsheet (completed and estimated)

7.2.2.4 Assessment of Mitigation Actions - 201.5(b)(2)(iv)

VDEM has an extensive grants database that is used to manage the financial reimbursements of HMGP, PDM and FMA projects. The database has been expanded to include property information. This Microsoft Access program is being populated with specific information regarding each property mitigated by mitigation grants since their inception. Closed out and “planned projects” through funds obligated up to DR1661VA encompass more than 1,300 structures, so building this database continues. Many of these structures were repetitive loss structures, and are found on the SRL list and have been mitigated or are slated to be mitigated in current projects. Due to the lack of digital photos and accurate site locations, VDEM in partnership with FEMA Region III is visiting sites to conduct a comprehensive inventory. With each site visit GPS coordinates and digital photos will be obtained. The database will include the date of the site visit. Each project will be visited in two-year intervals to observe the condition of the site and to verify, where applicable, that development has not occurred within the regulated floodplain. Photos will be taken on each site visit and archived into the database.

A variety of methods can be employed to calculate the long-term economic benefits of structural mitigation projects. The HAZUS flood and wind modules, if populated with local tax data, can estimate the economic impacts of certain storm events on a census block level. It might be possible to then extrapolate benefits, especially for elevated structures that remain in an impacted neighborhood.

Where benefit-cost analysis reports exist for projects, data extrapolated from these reports can be used to estimate cost savings from floods, which occurred following mitigation. In many instances, knowledge of the storm event frequency is also necessary if using the FEMA approved benefit-cost analysis method.

VDEM, at this time, will use this approach for all federally declared flood or hurricane disasters or localized flooding if when staff resources and local storm frequencies allow a valid analysis. Cost avoidance per declared storm event will be tracked cumulatively. More information is available in Appendix 6.



HMGP Tracker - Project Editor

File Edit View Insert Format Records Tools Window Help AddNew PDF

Projects Editor Projects Log Properties Details

Street Address: 206 Walnut Street
City: Bluefield
County: Tazewell
Community: Town of Bluefield
Owner: Anna Louise Puckett

Tax Map and Parcel Info.
County #: 024
District #: A
Map #: 3A
Parcel #: 0061
Latitude: 37.248748
Longitude: -81.274081

Mitig. Type: ACQUIRE
Land Size: 0.08 acre
1st Floor Elev.: 2372.13
Bldg. Type: PRIMARY HOME
Water Sys.: COMMUNITY
Ass'd. Value: \$32,300.00
Year Built: 1900
Sewer Sys.: PUBLIC
Bldg. Value: \$29,400.00
Sq. Footage: 2392
Found. Type: Masonary
Land Value: \$2,500.00
Floor Count: 3
Topography: FLAT
Project Costs: \$0.00
Basement: UNINSURED
Base Fd. Elev.:
Pictures: \\Tc1\HMGP\Pictures\HMGP\1386\Task004\After\2005\206 Walnut.JF

Add a Property Save Changes to Record Delete This Prop. Record Add a Picture to This Property Return to Main Menu

Form View

Start Desktop Icons My Computer \\Tc1\1386\HMGP\1386\Task004\After\2005\206 Walnut.JF HMGP - Database HMGP Tracker - Project Editor 10/17/2005

Screen Capture: VDEM HMGP Database, Property Information Screen Walnut St., Bluefield

Cost avoidance calculations are based on two data sets: benefit-cost analysis for the structure and storm frequency to assign estimated prevented damages. Both data sets present challenges. Until DR1491VA Phase II projects, FEMA Region III performed benefit-cost analyses for VDEM hazard mitigation projects. BCA module summaries were not shared with VDEM. These have been requested but to date have not been provided, probably due to challenges to retrieve the reports from archived storage.

The second challenge is determining storm frequency so that damages prevented can be estimated. The primary data source is U.S.G.S. gauging stations, but many of these have been inactive for the past decade due to severe budget cuts.

The database will also be used to support cost-avoidance information development for all future flood, wind and hurricane events. Cost-avoidance will be determined through use of benefit-cost analysis information to relate the intensity of the recent storm event to frequencies and costs determined by the benefit-cost analysis performed during the project application process. Special algorithms may have to be developed to calculate cost-avoidance for earthquakes using HAZUS, and other methods using insurance loss methods for wildfire, tornado and severe storms.

Since the inception of FEMA hazard mitigation grant programs, repetitive flooding of green space acquired or elevated structures has been limited to the City of Newport News, the Eastern Shore and Tangier Island, the Roanoke Valley and the Town of Bluefield. Since FEMA did most of the BCA work on these projects, it will not be possible to calculate reasonable cost-avoidance information until archived BCA reports can be

obtained from FEMA Region III. Therefore, Bluefield projects provide the best example of cost-avoidance methodology that VDEM intends to employ to evaluate mitigation projects on an economic basis.

Table 7-5 Bluefield Cost Avoidance show the predicted costs from two storms that impacted the town following completion of several acquisition and demolition projects. The storm frequency for both of these events mirrored the July 8, 2001 flood (DR-1386), which was about a 10-year storm event. Anecdotal accounts from the Town Engineer and others in Bluefield compared the November 17, 2003 and May, 2004 flood frequency to the July 2001 event. Until FEMA engineers following review and extrapolation of U.S.G.S. gauge data can verify frequencies, the 10-year storm event will be considered valid for this analysis. The Full Data Riverine Module was run for each of these properties. Avoided damage costs shown in the table below were taken from the module runs for each of the properties. With just two 10-year storm events, 51% of the costs of these projects have been "recovered" through savings from the mitigation effort. The Benefit-Cost Analysis Riverine Full Data Reports are in Enhanced Appendix 6, along with the model runs for additional Bluefield acquisition/demolition projects. These projects have been completed since the May 24, 2004 flood.

Table 7-5 Bluefield Cost Avoidance - HMGP Acquisition & Demolition Projects						
Property Location	Date Mitigated	Project Cost	DR-1502-VA November 17, 2003		DR-1525-VA May 24, 2004	
			Flood Depth	Damages Avoided	Flood Depth	Damages Avoided
202 Walnut St. Residence	Jun-03	\$61,850	1'	\$37,404	1'	\$37,404
204 Walnut St. Residence	Jun-03	\$62,550	1'	\$43,857	1'	\$43,857
206 Walnut St. Residence	Jun-03	\$62,250	3'	\$34,893	3'	\$34,893
210 Walnut St. Residence	Jun-03	\$63,050	3'	\$40,096	3'	\$40,096
212 Walnut St. Residence	Jun-03	\$59,850	2'	\$27,849	2'	\$27,849
214 Walnut St. Residence	Jun-03	\$71,850	3'	\$28,163	3'	\$28,163
109 S. College Ave- Walt's Barber Shop	May-03	\$103,196	1'	\$21,954	1'	\$21,954
710 Virginia Ave – Skips Auto Repair	Feb-04	\$132,100	N/A	N/A	2'	\$39,962
600 Virginia Ave – Town Hall	Feb-04	\$1,215,550	N/A	N/A	2'	\$446,483
712 Virginia Ave – Mustang Sally's	Feb-04	\$131,145	N/A	N/A	2'	\$45,838
TOTALS		\$1,963,391		\$234,216		\$766,498



Walnut Street, Bluefield Virginia Before and After HMGP Acquisition Project

Since the development of this methodology and the creation of the Mitigation Project Database, flooding has occurred during three 2006 events: severe weather in June, TD Ernesto Labor Day Weekend and the Columbus Day Weekend Nor-Easter. Two were federally declared for Public Assistance and SBA assistance has been received for all three events. Flooding occurred across the Commonwealth, and properties that had been mitigated had minimal impacts. Damage loss estimation will be performed by mitigation staff following the 2007 PDM application process during spring, 2007 in the following jurisdictions: Newport News, Franklin, Poquoson, Isle of Wight County, Southampton County, Chesterfield County and Accomack County (including Tangier Island).

It is the intention to focus on damages sustained during significant events (perhaps only federally declared) and to encourage participation of local officials in the process. Success stories highlighting the financial benefits of the program will be developed. Damage assessment, including recordation of high water marks, will be sought from local government partners and partner state and federal agencies involved in disaster response and recovery such as USDA NRCS, USGS, DCR, DEQ and VDOT.

7.2.3 Effective Use of Available Mitigation Funding

As detailed in Chapter 4, the Commonwealth's Hazard Mitigation Program Goals are:

Table 4.1 Mitigation Goals and Objectives

Goal 1: Structural Mitigation Projects:

Identify and implement physical projects that will directly reduce impacts from hazards.

Goal 2: Policy, Planning and Funding

Incorporate mitigation concepts and objectives into existing and future policies, plans, regulations and laws in the Commonwealth.

Goal 3: Information and Data Development

Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification.

Goal 4: Education and Outreach Activities

Through education and training, increase awareness of hazards and potential mitigation strategies.

Structural Mitigation

The Commonwealth began sponsoring structural HMGP projects during the last decade. Early projects were targeted to the Roanoke and Shenandoah Valley areas that were devastated by Hurricane Camille, 1985 flooding and 1992, 1995, and 1996 events. Hurricanes Bonnie, Dennis and Floyd, along with winter storms and northeasters encouraged funding to eastern counties and cities. Where Floodplain Management Assistance plans had been approved, the FMA program provided limited funds to acquire and demolish NFIP Repetitive Loss properties. Dedicated green space from acquisition and demolition projects has been converted to passive use parks, open space, forest and community gathering areas such as farmer's markets. Neighbors for summer gardens



and extended lawns use some areas interspersed in residential areas. Mitigation projects have been implemented that address flooding, hurricane, wind, severe weather and human-caused hazards (terrorism, Arlington County) since the inception of the program. These efforts have targeted Commonwealth's most severe hazards. Mitigation of repetitive and severe repetitive loss properties remains a strong objective of all VDEM mitigation programs, whether pre-or post-disaster grant programs.

In many communities, affordable new or replacement housing is not available due to market conditions. In southwest Virginia, steep terrain and lack of available land due to large National Forest and mining company landholdings compound this problem. The Commonwealth has funded numerous elevation projects that have allowed residents to remain in homes renovated so that the first floor is above the base flood elevation in compliance with the local floodplain management ordinance. Following Hurricane Isabel, elevations gained popularity as a mitigation method that allowed communities of watermen such as Tangier, Poquoson and Saxis to remain in their homes and communities.

Specific disaster recovery Mitigation Strategies establish HMGP project priorities, but recent disasters have significantly impacted non-residential commercial and government facilities. New emphasis has been placed on non-residential projects. The program has expanded efforts to increase use of \$406 in Public Assistance projects. In addition, structural mitigation projects have been sponsored that have or will benefit downtown Bluefield and Staunton. Finally, significant critical facility "hardening" was made possible by HMGP funding to Arlington County following the September 11, 2001 attack on the Pentagon. Additional facility retrofitting projects that strengthen local government infrastructure have been funded with Hurricane Isabel HMGP projects.

As of April 1, 2008 more than 1,300 structures have been or are in the process of being acquired and demolished, elevated, relocated or substantially retrofitted to prevent losses from flood, hurricane, high winds or criminal or terrorism events in the Commonwealth through FEMA-Commonwealth Mitigation grant programs. Table 7-6 provides a detailed listing of the projects by "type" that have been entered into the Mitigation Projects database that is under development (Appendix 12).

Table 7- 6 FEMA-Commonwealth Funded Structural Hazard Mitigation Projects with local sponsor match

PROJECT TYPE & STATUS	Acquisition & Demolition	Elevation	Utility Elevation	Relocation	Flood Proofing Wind Retrofit
Completed Residential	261	49	4	34	
Completed Non-residential	15				205
Residential In Progress	98	224			
Non-residential	6				1



In Progress

TOTALS	380	273	4	34	206
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Policy, Planning and Funding

Major planning accomplishments have focused on funding, training and technical support to the development of FEMA-compliant §322 all-hazard mitigation plans. The entire Commonwealth's incorporated cities, counties and towns are covered through ongoing development of local or regional commission plans. These plans are supported through federal, state and local funding from PDM 2002, 2003 and several HMGP grants. Two plans were developed through local funds (Chesapeake and Poquoson). To date, twenty-one local plans are fully adopted and approved, five plans have been conditionally approved by FEMA and local adoption is underway. The remaining local plan is near completion for submittal to FEMA. Current status of local planning is described in Chapter 6. Appendix 11 provides the database of all local plan strategies (more than 1,900).

In addition to support of development of local plans, VDEM has promoted and encouraged hazard mitigation planning for state colleges and universities. Through the Disaster Resistant University Program, Virginia Tech, Radford, George Mason University, Old Dominion University, Mary Washington College, Virginia State University and the University of Virginia have received funding. VDEM will continue to promote the Disaster Resistant University Program as additional Commonwealth colleges and universities indicate interest in the program. Current state and local plan maintenance and revision plans are outlined in the Revised Standard Plan, Chapters 5 and 6. The schedule for the state plan revision is provided in Table 7-8 at the end of this chapter.

Information and Data Development

A comprehensive database of all state-owned or leased facilities was built to develop the Hazard Identification and Risk Analysis component of the Standard Mitigation Plan. This database allows use of the Kaiser-Permanente method to perform a vulnerability analysis for each state agency. The Mitigation Database resides at Virginia Tech University under the supervision of the Center for Geospatial Information Technology. The Virginia Hazard Mitigation Steering Committee Information and Data Development Sub-Committee has outlined many of the objectives, strategies and projects necessary to continue to develop adequate databases to provide comprehensive analysis of the populations, property, critical facilities and infrastructure of the Commonwealth relative to vulnerability to natural or human-caused hazards.

To facilitate expansion of the database, a project was initiated July 1, 2005 to upload regional and local all-hazard plan data into the state hazard mitigation database. This information will include the inventory of local critical facilities and infrastructure, local vulnerability analysis and "critical" and "high" ranked mitigation actions, strategies or projects identified in local plans.

Additionally, the Virginia Hazard Mitigation Program has initiated efforts to better use HAZUS in hazard identification and mitigation efforts, as well as to supplement planning functions of Virginia Emergency Response Team (VERT) in activation to the Emergency Operation Center. HAZUS Wind module data runs were conducted to prepare for the 2005 hurricane season. Funding to develop level II and level III HAZUS flood module

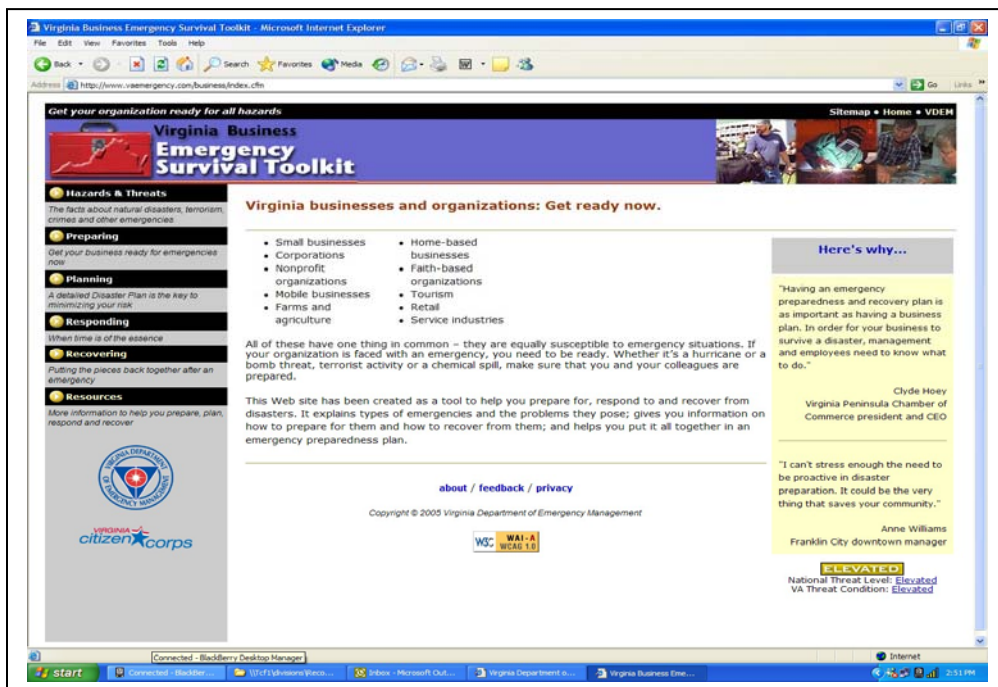


data to better predict impacts of coastal and riverine flooding was supported by HMGP 7% funds in 2005. This data initially supported development of more comprehensive hurricane risk data for the 2005 and 2005 hurricane seasons and will be used to inform HIRAs for future plan revisions. This will be refined to assist predictive modeling during flood and hurricane preparation. In addition, additional data layers have been obtained by the VDEM GIS manager for use in future HIRA's and vulnerability assessments.

Education and Outreach Activities

A significant element of Disaster Mitigation Strategies as well as daily promotion of mitigation is education and outreach. Numerous mitigation workshops have been sponsored or co-sponsored and conducted by VDEM Mitigation Program staff during the past 24 months. These are detailed in Table 7.2 - Hazard Mitigation Program Workshops, 2003 - 2006.

The VDEM Website, www.vaemergency.com has been updated to include numerous mitigation principles throughout the site. A recent section, the Virginia Business Emergency Survival Kit covers preparedness, and perhaps more importantly principles of recovery and mitigation to maintain business and service continuity following disasters. The website is continually being updated to reflect the latest information for residents and business owners, as well as government and private non-profit organizations regarding hazard mitigation.



Screen Capture: Business Toolkit, VDEM Website, July, 2005

7.2.4 Commitment to a Comprehensive Mitigation Program – 201.5(b)(3)

The Commonwealth is committed to a comprehensive State mitigation program, which is demonstrated through the following programs and initiatives:



7.2.4.1 Workshops, Training and Certifications – 201.5(b)(3)(i)

Since reorganization of the Department of Emergency Management Hazard Mitigation Program following Hurricane Isabel in 2003, a strong emphasis has been placed on training VDEM mitigation program staff, agency partners and local officials. Positioned within a new Division of Recovery and Mitigation, the program has a renewed emphasis on incorporation of mitigation measures into all appropriate aspects of government, neighborhoods and business operations.

Workshops

Training workshops have been designed to address two specific needs: Technical application of the principles of floodplain management, hazard protection, all-hazard mitigation planning and construction methods has been the target of workshops marketed to local building officials, consulting engineers and architects, planners, and contractors. Floodplain management, specifically field application of the NFIP, has been offered to local officials and others in partnership with the Department of Conservation's Floodplain Management Program and the Virginia Association of Floodplain Managers. Participation in these workshops included many agency and organization representatives involved in development of the Standard State Plan and local and regional all-hazard plans, improving their understanding of hazard mitigation concepts. Arrangements for many of the workshops, including co-sponsorships and facilities arrangements were made by VDEM mitigation planning partners. Numerous workshops have been conducted since early 2004:

Table 7- 7 Hazard Mitigation Program Workshops, 2003 - 2006				
Workshop Title	Sponsor	Target Audience	Location and Date	Attendance
<i>Virginia Hazard Mitigation Planning Workshop – Developing a Local All-Hazard Mitigation Plan</i>	VDEM	Local and regional planners, members of local mitigation planning steering committees	March 7, 2003 New River Valley Community College	45
<i>Advanced Floodplain Management Workshop – Determining Elevations in A Zones</i>	DCR VDEM VA Floodplain Managers Association, PBS&J Corporation	Local government Officials, Consulting Engineers	October 10, 2003 J. Sergeant Reynolds Community College, Richmond Virginia	43
<i>Principles of Floodplain Management</i>	Dept. of Conservation & Recreation (DCR) VA Department of Emergency Management VA Floodplain Managers Association	Local Government planning, zoning and building officials Consulting engineers Regional Planning District Commissions FEMA staff	October 22, 2003 Salem, Virginia	35
<i>Principles of Floodplain Management</i>	DCR VDEM VA Floodplain Managers Association	Local Government planning, zoning and building officials Consulting engineers Regional Planning District Commissions FEMA staff, including DAEs	November 6, 2003 Farmville, Virginia	53
<i>Principles of Floodplain Management</i>	DCR VDEM VA Floodplain Managers Association	Local Government planning, zoning and building officials Consulting engineers Regional Planning District Commissions FEMA staff, including DAEs	November 19, 2003 Fredericksburg, VA	41
<i>Coastal Floodplain Management</i>	Tidewater Chapter of American Society of Civil Engineers VA Assn. of Floodplain Managers VDEM DCR	Local Government planning, zoning and building officials Consulting engineers Regional Planning District Commissions FEMA staff, including DAEs	February 11 – 12, 2004 Virginia Beach, Virginia	55
<i>Residential Retrofitting</i>	VDEM DCR FEMA HMTAP – URS and Dewberry	Building Officials Consulting Engineers & architects Contractors	March 22 - 23, 2004 Richmond, VA	28
<i>Residential Retrofitting</i>	VDEM	Building Officials	March 24 - 25,	26



	DCR FEMA HMTAP – URS and Dewberry	Consulting Engineers & architects Contractors	2004 Virginia Beach, VA	
<i>Residential Retrofitting</i>	VDEM DCR FEMA HMTAP – URS and Dewberry	Building Officials Consulting Engineers & architects Contractors	March 30 - 31, 2004 Staunton, VA	18
<i>Coastal Construction</i>	VDEM DCR FEMA HMTAP – URS and Dewberry	Building Officials Consulting Engineers & architects Contractors	March 15 - 16, 2004 Williamsburg, VA	35
<i>Coastal Construction</i>	VDEM DCR FEMA HMTAP – URS and Dewberry	Building Officials Consulting Engineers & architects Contractors	March 2 - 3, 2004 Virginia Beach, VA	35
<i>Coastal Construction</i>	VDEM DCR FEMA HMTAP – URS and Dewberry	Building Officials Consulting Engineers & architects Contractors	May 18 – 19, 2004 Accomack, VA	20
<i>HMGP Project Management</i>	VDEM FEMA HMTAP – URS and Greenhorne & O'Meara	Local Project Sponsors	May 13 - 14, 2004 Richmond, VA	18
<i>HMGP Project Management</i>	VDEM FEMA HMTAP – URS and Greenhorne & O'Meara	Local Project Sponsors	May 26 – 27, 2004 Richmond, VA	24
<i>Local Hazard Mitigation Planning Workshop – Part II</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	September 14, 2004 Abingdon, VA	20
<i>Local Hazard Mitigation Planning Workshop – Part II</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	September 15, 2004 Roanoke, VA	15
<i>Local Hazard Mitigation Planning Workshop – Part I</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	September 20, 2004 Charlottesville, VA	12
<i>Local Hazard Mitigation Planning Workshop – Part I</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	September 22, 2004 Petersburg, VA	28
<i>Local Hazard Mitigation Planning Workshop – Part I</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	September 23, 2004 Newport News, VA	18
<i>Flood Forum</i>	FEMA VDEM DCR	Insurance Agents Local Government Officials	November 3, 2004 Richmond, Virginia	85
<i>Non-residential Floodproofing – Recovery in Shockoe Bottom</i>	VDEM FEMA Dewberry	Shockoe Commercial Property Owners Richmond City Officials Richmond Times-Dispatch	November 10, 2004 Richmond, VA	25
<i>Local Hazard Mitigation Planning Workshop – Part I</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	March 3, 2005 Richmond, VA	15
<i>Local Hazard Mitigation Planning Workshop – Part II</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	March 21, 2005 Martinsville, VA	17
<i>Local Hazard Mitigation Planning Workshop – Part II</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	March 29, 2005 Virginia Beach, VA	34
<i>Local Hazard Mitigation Planning Workshop – Part II</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	March 30, 2005 Richmond, VA	28
<i>Local Hazard Mitigation Planning Workshop – Part II</i>	VDEM FEMA HMTAP – Dewberry	Local and Regional Planners, Members of local Mitigation Planning Steering Committees	March 31, 2005 Fredericksburg, VA	10
<i>Elevation Project Management</i>	VDEM	Local Project Sponsors Contractors	May 11, 2005 Hampton, VA	37
<i>Project Development Workshop (including BCA)</i>	VDEM Dewberry	Local project sponsors Consulting Engineers	July 19 – 21, 2005 Richmond, VA	27
<i>Project Development Workshop (including BCA)</i>	VDEM Dewberry	Local project sponsors Consulting Engineers	July 27 – 29, 2005 Chesapeake, VA	19
<i>Project Development Workshop (including BCA)</i>	VDEM Dewberry	Local project sponsors Consulting Engineers	August 2 – 4, 2005 Abingdon, VA	15
<i>PDM Project Development Workshop (Including BCA)</i>	VDEM Dewberry PBS&J	Local project sponsors Consulting Engineers	October 5-7, 2005 Richmond, VA	33
<i>Mitigation Planning Workshop</i>	VDEM	Local, Regional, and State Planners, Members of local Mitigation Planning Steering Committees	February 22-22, 2006 Newport News, VA	24
<i>Mitigation Planning Workshop</i>	VDEM	Local, Regional, and State Planners, Members of local Mitigation Planning Steering Committees	March 7-8, 2006 Roanoke, VA	16
<i>Managing Floodplain Development through the National Flood Insurance Program</i>	FEMA VDCR VDEM	State and local floodplain managers, emergency managers, building and zoning officials, and other interested parties.	August 21-24, 2006 Richmond, VA	22
<i>Managing Floodplain Development through the National Flood Insurance Program</i>	FEMA VDCR VDEM	State and local floodplain managers, emergency managers, building and zoning officials, and other interested parties.	September 11 – 14, 2006 Roanoke, VA	48

Training



The Department of Emergency Management has a proactive training program formalized in the Virginia Department of Emergency Management Policy Statement Number 205-04. The department's training objective is:

To promote and provide for an employee training and development program that support the agency's mission and goals as affords each employee the maximum opportunity for personal and professional growth. VDEM encourages and rewards employees who demonstrate new knowledge and skills acquired through certification or licensure. Employees will be encouraged to enroll in professional certification programs such as the Professional Development Series, Advanced Professional Series, and the Virginia Emergency Management Certification Program.

The full policy document may be found in Enhanced Appendix 7. VDEM Mitigation staff have participated in specialized training to improve both technical and management skills. This is achieved primarily through participation in independent study courses, attendance at resident Emergency Management Institute courses and participation in specialized conferences and workshops. A complete list of staff training is also provided in Enhanced Appendix 7. For example, during the past 18 months, staff has participated in the following:

- ASCE 2005 Conference, Charleston SC – Hazard Mitigation Methods;
- ASFPM Annual Conference, Madison WI;
- Uniform Relocation Assistance Workshop, New Hampshire;
- Coastal Construction;
- Residential Retrofitting;
- Disaster Response and Recovery Operations;
- Principles of Emergency Management;
- Benefit-Cost Analysis;
- Basic Incident Command System

There has been a concerted focus on providing staff with the knowledge and tools necessary to perform their job duties. This includes on-the-job training during disasters, project management, professional courses through EMI and professional organizations, as well as training for personal skills and human resource issues. All of these activities contribute to the development of greater capacity and capabilities.

Certifications

The policy outlines required training within 12 month and 36 month parameters as well as annual requirements. In addition, staff routinely participates in FEMA Independent Study Courses, FEMA workshops and resident courses at the Emergency Management Institute, which is only 3.5 hours from Richmond Virginia. It should be noted that only one member of the seven person Hazard Mitigation Program staff has been with the agency more than 30 months. The Division Director, while experienced in natural resources and the NFIP program, has been with the agency since April, 2004.

Despite relative newness to the VDEM Hazard Mitigation Program, the staff boasts four employees that will achieve certification as Certified Emergency Managers through the National Emergency Management Association by the end of 2005. In addition, the Division Director and Program Manager are Certified Floodplain Managers through the Association of State Floodplain Managers (ASFPM). Currently, the Division Director, the Program Manager, and the Project Coordinator function in a technical advisory capacity



to the board of the Virginia Floodplain Management Association that offers CFM training and exams in the Commonwealth twice-annually as a chapter of ASFPM.

It must be recognized that these programs are not only embraced by VDEM Mitigation Program staff but are aggressively promoted to Commonwealth of Virginia local government officials, consultants and other agencies active in emergency management and hazard mitigation. VDEM has one of the most comprehensive training and certification programs in the nation.

A selection of workshop promotional materials, registration forms and the Elevation Workshop handbook are located in Enhanced Appendix 7 – Training and Workshop Materials.

7.2.4.2 Mitigation Legislation – 201.5(b)(3)(ii)

Title 44, Military and Emergency Laws of the Commonwealth's *Code of Virginia* details emergency management authorities, organizations, and programs. Chapter 3.2 specifically addresses Emergency Services and Disaster Law. The following section provides authorities that form the basis of the Virginia Department of Emergency Management's Hazard Mitigation Program:

§44-146.22. Development of measures to prevent or reduce harmful consequences of disasters; disclosure of information.

1. In addition to disaster prevention measures included in state, local and inter-jurisdictional emergency operations plans the Governor shall consider on a continuing basis, hazard mitigation or other measures that could be taken to prevent or reduce the consequences of disasters. At his direction, and pursuant to any other authority, state agencies, including but not limited to, those charged with responsibilities in connection with floodplain management, stream encroachment and flow regulation, weather modification, fire prevention and control, air quality, public works, critical infrastructure protection, land use and land use planning, and construction standards, shall make studies of disaster prevention. The governor, from time to time, shall make recommendations to the General Assembly, local governments, and other appropriate public and private entities as may facilitate measures for prevention or reduction of the harmful consequences of disasters.
2. The Governor or agencies acting on his behalf may receive information, voluntarily submitted from both public and nonpublic entities, related to the protection of the nation's critical infrastructure sectors and components that area located in Virginia or affect the health, safety and welfare of the citizens of Virginia. Information submitted by any public or nonpublic entity in accordance with the procedures set forth in subdivision 4 of §2.2-3705.2 shall not be disclosed unless:
 1. It is requested by law-enforcement authorities in furtherance of an official investigation of a criminal act;
 2. The agency holding the record is served with proper judicial order; orThe agency holding the record has obtained the written consent to release the information from the entity voluntarily submitting it. (1973, c. 260; 1974, c. 4; 1975, c. 11; 2000, c. 309; 2003, c. 848; 2004, c.690.)

7.2.4.3 Commonwealth of Virginia Mitigation Program Funding – 201.5(b)(3)(ii)

The Virginia General Assembly enacts a biennial budget through adoption of *House Document 1, The Budget Bill* during the 60 session of the General Assembly. The General Assembly meets for 60 days during even years and 45 days in odd years. During the "odd year," which represents expenditure of the second year of the two-year



budget, the General Assembly usually enacts revisions to the budget through an amendment bill. Through the authority of the *Code of Virginia*, Title 2.2 Chapter 1, the Governor's discretionary budget allows "a sum sufficient" for disaster recovery through the following language:

Generally, within three or four weeks of receipt of a Presidential declared disaster, Department of Emergency Management staff prepare a request for necessary funds to match federal disaster response and recovery expenditures for Public Assistance, Other Needs Assistance and Mitigation Programs. During a large disaster recovery effort, such as Hurricane Isabel in 2003, several requests were necessary periodically as disaster costs increased during recovery. The Department of Planning and Budget formulates the request into a Decision Brief for the Governor. Upon concurrence from the Secretary of Public Safety and the Secretary of Finance, the governor approves the Decision Brief enabling a state match for the major disaster recovery programs. During the past five years, the Hazard Mitigation Program has received a 20% state match. As of July 1, 2005, the Commonwealth provided \$4,573,548 to match Hurricane Isabel (DR-1491-VA) HMGP. A copy of two Hurricane Isabel Decision Briefs and the Sum Sufficient line item description from The Budget Bill, House Document No. 1, 2005 Session of the Virginia General Assembly may be found in Enhanced Appendix 8.

Authority: Title 44, Chapter 3.2 and Title 45.1 Chapter 13, Code of Virginia

A. 1. The amount for Disaster Recovery is from all funds of the state treasury, not constitutionally restricted, and is to be effective only in the event of a declared state of emergency or authorization by the Governor of the sum sufficient, pursuant to §44-146.28, Code of Virginia. Any appropriation authorized by this Item shall be transferred to state agencies for payment of eligible costs according to written directions for payment of eligible costs according to written directions of the Governor or by such other person or persons as may be designated by him for this purpose.

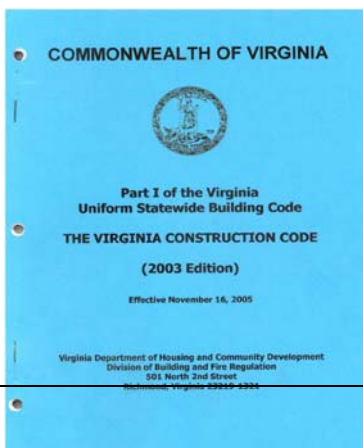
A.2. Any amount Authorized for expenditure pursuant to §44-146.28, Code of Virginia, shall be paid to eligible jurisdictions in accordance with guidelines and procedures established by the Department of Emergency Management, pursuant to §44-146.28, Code of Virginia.

B. In the event of a Presidentially declared disaster, the state and local share of any federal assistance, hazard mitigation or flood control programs in which the state participates will be determined in accordance with the procedures in the *Commonwealth of Virginia Emergency Operations Plan*, promulgated by the Department of Emergency Management. The state share of any such program shall be no less than 10 percent.

C. The amount for Emergency Coal production operations is for carrying out the purposes of and subject to the conditions stated in Chapter 22, Acts of the General Assembly of 1950, which authorizes the Governor to take certain steps in the event of a coal production emergency.

7.2.4.4 Uniform Statewide Building Code – 201.5(b)(3)(iv)

Title 36, Chapter 6 of the Commonwealth *Code of Virginia* was created in 1972 to address regulation of construction. The current building code required for use by all Virginia cities has an effective date of November 16, 2005. The Virginia Uniform Statewide Building Code is a state regulation promulgated by the Virginia Board of Housing and Community Development to establish minimum regulations to govern construction and maintenance of buildings and structures. The provisions of the code are based on nationally recognized International



Code Commission standards. The November 16, 005USBC updates the Virginia Uniform Statewide Building Code to the 2003 International Building Code with state amendments. The staff of the Department of Housing and Community Development promulgated the code through notification in *The Virginia Register of Regulations*. Virginia cities, counties and towns are required by the *Code of Virginia* to adopt and enforce the Uniform Statewide Building Code.

The Training and Certification Office (TCO) within DHCD's Division of Building and Fire Regulation works to ensure safe buildings and homes throughout the commonwealth by providing its clients with four major services:

1. Training
2. Certification
3. Accreditation
4. *Code Connection* Newsletter

Training is provided as mandated by Virginia Certification Standards (VCS 13 VAC 5 – 21) through DHCD's Virginia Building Code Academy (VBCA). VBCA offers training in the following modules to help ensure safe buildings and homes: Core, Advanced Official, Property Maintenance, Plan Review, Mechanical Inspection, Electrical Inspection, Plumbing Inspection, Building Inspection, and Amusement Device Inspection. The focus of VBCA training programs is on the populations that enforce the USBC, SFPC, and VADR. Specifically, VBCA programs are designed for individuals employed by local jurisdictions in Virginia in the occupations of building code official, fire code official, maintenance code official, and their technical assistants/inspectors in the disciplines of mechanical, electrical, plumbing, building, property maintenance, elevator, and amusement device inspection.

VBCA trainings are held at locations throughout the commonwealth to ensure thorough and convenient training opportunities for the state's building code personnel.

Certification is provided by DHCD, as mandated by Virginia Certification Standards (VCS 13 VAC 5 – 21), in the following categories:

1. Building Code Official
2. Fire Prevention Code Official
3. Building Plans Examiner
4. Fire Protection Plans
5. Building Inspector General
6. Fire Prevention Inspector
7. Fire Protection Inspector\
8. Building Maintenance Inspector
9. Plumbing Plans Examiner
10. Plumbing Inspector General
11. Electrical Plans Examiner
12. Electrical Inspector General
13. Mechanical Plans Examiner
14. Mechanical Inspector General
15. Combination Inspector General
16. Building Inspector 1 & 2 Family Dwelling
17. Plumbing Inspector 1 & 2 Family Dwelling
18. Electrical Inspector 1 & 2 Family Dwelling
19. Mechanical Inspector 1 & 2 Family Dwelling
20. Combination Inspector 1 & 2 Family Dwelling



21. Elevator Inspector
22. Amusement Device Inspector.

Training was conducted to “roll out” the new building code through a series of phased training workshops that occurred throughout the Commonwealth through December, 2005.

Sessions	Topic	Workshops	Dates
Phase I	Building Mechanical Systems	8	July 12 through August 31, 2005
Phase II	Building and Residential Code	12	July 20 through November 1, 2005
Phase III	Administration of the Code	14	August 30 through December 12, 2005

7.2.4.5 Multi-year Plan to Mitigate Critical Facilities - 201.5(b)(3)(v)

Critical facility mitigation is approached by the Commonwealth of Virginia through a comprehensive Continuity of Operations (COOP) Planning program targeted to maintenance of core state functions. The plans address not only mitigation of critical facilities but redundant business functions to assure continued critical state services during emergencies. Following the September 11, 2001 attacks, the Office of the Governor identified the need for Continuity of Operation Plans (COOP) the Secure Virginia Initiative Progress Report and two memorandums. The progress report dated July 30, 2002 stated that all Executive Branch agencies were required to submit COOPs by May 31, 2002.

According to the progress report, all agencies, including colleges and universities have complied and that the COOPs were being reviewed with feedback to be supplied to the agencies. On August 18, 2003, the Office of the Governor recognized a review of COOPs based on two measures; completeness of continuity team functions and completeness of continuity plans. The Office of the Governor stated that there was a wide variance across state agencies in understanding and accomplishing COOPs. In a memorandum dated September 2003, state agencies were provided a June 2004 deadline to submit COOPs. A series of consultant and technological firms were made available to the state agencies in order to meet the June 2004 deadline.

Executive Order 7 (2002) declares that all executive branch agencies prepare, within 120 days, emergency response plans or updates to existing plans that address continuity of their operations and services, and the security of their customers and employees, in the event of natural or man-made disasters or emergencies, including terrorist attacks. These agency plans shall be presented to the Office of the Governor and shall be made available to the Panel as part of its work in preparing a statewide emergency preparedness, response, and recovery plan.

Executive Order 69 (2004) declares that all executive branch agency heads certify by June 1, 2004 that they have completed updates and/or development of plans that address continuity of their operations and services, and the security of their customers and employees, in the event of natural or man-made disasters or emergencies, including terrorist attacks. It further directs that all executive branch agencies exercise and test these plans on or before September 1, 2005.



The Commonwealth of Virginia Emergency Operations Plan Volumes 1 and 2 (COVEOP (Vol. 1 & Vol. 2), Virginia Emergency Services and Disaster Laws (2003 Edition), and the Continuity of Operations Plan for the Department of Emergency Management identify and mandate functional roles and responsibilities for COOP implementation. Specific responsibilities are outlined for the Governor, VDEM, and other internal and external agencies, organizations and departments and for individuals assigned functional roles in the COVEOP.

VDEM in collaboration with the Virginia Information Technology Agency (VITA), selected an outside consultant to review the 45 VERT Agency COOP plans as well as the overarching State COOP Program. The consultants will perform an assessment on the COOP plans for all 45 agencies. They will evaluate the overall structure of the plans for compliance with EMAP, FEMA COOP guidance and existing industry norms. The plans will be assessed with a crosswalk designed by the firm for the project. The consultant will present findings of non-compliance elements, which are to be rated for criticality by VDEM. The consultant will then provide general remediation recommendations as part of the findings report, which will serve as courses of action for the state agencies to bring their plans into compliance.

As of August 19, 2005, the consultant has reviewed the 17 essential VERT agencies COOP plans as well as the overall State COOP program. VDEM, in cooperation with the Governor's Office of Commonwealth Preparedness, is developing standards for State agencies to follow in the revision of the COOP plans. All agencies will be required to meet these standards in order to be considered compliant. The consultant will work with VDEM in establishing State COOP Program management, developing COOP planning guidance for the State agencies, communicating guidance through training and mentoring and defining a testing program for State agencies.

7.2.4.6 Integration of post-disaster recovery operations - 201.5(b)

Mitigation staff mobilize when disaster strikes during the initial stages of damage assessment. Mitigation staff area critical members of the Planning Section of ESF 5 in the Emergency Operations Center and form the key group that analyzes incoming information from impacted communities. Analysis of initial damage assessments (IDAs) within the first 72 hours post-disaster, followed by field verification, supports requests for a Local-Commonwealth-FEMA Preliminary Damage Assessment to determine whether thresholds have been met to justify requesting federal aid as outlined by the Robert T. Stafford Act. Mitigation staff are members of the Virginia Emergency Response Team PDA teams. They are equipped with digital cameras and GPS units and accompany Individual Assistance or Public Assistance Program assessment teams in the field, usually within 72 hours of the disaster. Data gathered by staff is integrated into a regional assessment of damages incurred, reasons those damages incurred and determination of the most practicable mitigation solutions to prevent long-term damage in the event of future disasters.

A disaster-specific Mitigation Strategy is developed in cooperation with the Federal Emergency Management Agency, partner federal and state agencies and the Department of Emergency Management. These strategies set event-specific goals, objectives, strategies and projects that will promote and implement mitigation in the communities affected by the disaster event. It must be noted that during the past four years, the Commonwealth's Mitigation Strategies have provided a holistic approach to disaster recovery through mitigation that far exceeds traditional delivery of the HGMP grant program and limited stream or river Flood Insurance Studies following severe



flooding. With support from FEMA, affected communities and mitigation partners, recent disasters have seen extensive but targeted education efforts. These have included:

- Support of water system restoration and hardening and FIS – Russell County, Virginia DR-1406-VA
- Initiation of Education CD for distribution to local government and teachers DR-1411-VA, DR 1458-VA and DR-1491-VA
- Development of the format for a business owners recovery seminar through the Shockoe Bottom Property Owners Recovery Workshop – DR-1544-VA
- Widespread development of distribution of success stories and best practices DR-1491-VA, DR-1544-VA, DR1661-VA
- Development and delivery of residential property owners workshop to provide technical expertise on mitigation methods for homeowners – DR-1661-VA
- Focused integration of public assistance and mitigation programs to promote greater use of section 406 mitigation for infrastructure repair and replacement DR-1544-VA, DR-1655-VA, DR1661-VA.
- Partnership with the Virginia Floodplain Managers Association to deliver workshops on floodplain management, map modernization, use of elevation certificates and mitigation measures post-disaster. Since 2003, nine of these workshops have been delivered as an element of the Mitigation Strategy.

The Mitigation Strategy is usually in draft form as the Joint Field Office is opened, i.e. within 48 hours of formal receipt of a Presidential Disaster Declaration. This is a formal document signed by the Federal Coordinating Officer and the State Coordinating Officer. Examples of the Isabel and Gaston Mitigation Strategies are found in Enhanced Appendix 7.

The Recovery and Mitigation Division of VDEM is composed of staff that manage all post-disaster programs, including those outlined in the Robert T. Stafford Act – Hazard Mitigation, Human Services, and Public Assistance. This staff serve together in the VEOC as well in performing damage assessments and implementing programs from a joint field office. Cross-training has enabled not only cross-program support, but integration of programs to provide more comprehensive approaches to recovery. During two 2006 disasters declared for public assistance program aid only, mitigation staff were trained in the PA program and were specifically partnered with VDEM's PA program contractors and FEMA PA Mitigation experts to learn the section 406 PA Mitigation Program. It is anticipated that this investment of training between programs will increase the use of section 406 during future disasters thus providing valuable mitigation of public infrastructure.

An example of delivery of community-specific mitigation was recently provided in Virginia's Northern Neck. VDEM mitigation staff initiated a property owner's workshop for those impacted by Tropical Depression Ernesto and the 2006 Columbus Day Weekend Nor-Easter. Neither event received a presidential declaration of emergency for the Individual Assistance Program but SBA aid was made available. VDEM mitigation staff, in partnership with Northumberland County, developed an evening workshop format enabling property owners to meet disaster recovery experts and gain valuable technical advice for coastal storm mitigation. VDEM coordinated support from the Department of Conservation and Recreation (Floodplain Management and NFIP), SBA and the State Corporation Commission Bureau of Insurance (general vehicle and property insurance, homeowner's insurance, NFIP, consumer issues). VDEM provided information on grants and structural home improvements to reduce damages from future storm events.



7.3 Review and Updates - 201.5 (c)(1) and 201.5(c)(2)

As described in Chapter 6 of the *Virginia Emergency Operations Plan – Support Annex a: Standard Hazard Mitigation Plan*, the plan will be revised per the federal code within three years of its approval. At that time, revision was targeted for 2007 with submittal to FEMA Region III during fall, 2007. However, the plan has been revised significantly and with re-submittal of Chapter 7 – Enhanced Plan approval of the November 10, 2006 revision Standard Plan will be sought. The continual mitigation planning process is described in Standard Plan Chapters 2 and 6.

It should be noted, following each presidential disaster declaration, the state hazard mitigation plan is reviewed. This review is performed in part as the disaster-specific mitigation strategy is developed. Mitigation strategies for two large disasters, Hurricane Isabel and Tropical Depression Gaston can be found in Appendix 9. Should a major revision be deemed necessary for a disaster that occurs prior to the next scheduled plan revision, appropriate revisions will be made and considered a plan annex or update as necessary. Table 7-8 provides the schedule for Standard and Enhanced Plan maintenance and revision.

Table 7-8 Schedule for Plan Maintenance and Revision

Task	Responsibility	Time Frame
1. Complete expansion of approved [September 28, 2004] Standard Mitigation Plan and the Virginia Hazard Mitigation Program to “Enhanced” Status	VDEM Mitigation Staff FEMA Region III Cooperating Virginia State Agencies	Submit, November 2006 Approved 3/14/2007
2. Refine Planning Process and timeline for new plan development	VDEM Mitigation Staff Planning and Public Policy Sub-committee	Ongoing
3. Expand data base	VA Tech CGIT Database Expansion & Refinement Sub-Committee	Initiated Fall, 2005 Ongoing
4. Pursue annual Pre-Disaster Mitigation Program Funding for “Critical” and “High” ranked strategies and projects. Continue to pursue other FEMA funding as available	VDEM Mitigation Staff Project sponsors	Ongoing
5. Continue working with local plan and state contacts on plan implementation – use the VDEM Mitigation Project Spreadsheet to track projects	VDEM Mitigation Staff Project sponsors	Initiated Fall, 2006 Ongoing
6. Use available tools and resources to mitigate against manmade hazards	VDEM Terrorism Staff and Hazard Mitigation Staff Geospatial Information System (GIS) database Commodity flow studies Local sample Hazmat Terrorism	Ongoing

	Consequence Management Plans	
	State Agency COOP Plans	
7. Convene the State Steering Committee Members to discuss plan implementation, the submittal of additional mitigation activities, and to lay the groundwork for future HIRA, Vulnerability Assessment and strategy changes to the State Plan	State Emergency Coordinator VDEM Mitigation Staff - ongoing HIRA Sub-Committee Members	Annually each January – Structural Sub-committee April 30, Spring 2008
8. Evaluate progress on “Critical and High” priority strategies and projects	VDEM Mitigation Staff Strategy & Project Sponsors	Summer, 2006 complete Summer, 2007 complete Summer, 2008 Summer 2009
9. Upload Local Plans	VA Tech CGIT VDEM Mitigation Staff	Complete, Winter 2008
10. Hazard Identification and Risk Assessment	VDEM Mitigation Staff VA Tech CGIT	Ongoing
11. Review current regulatory requirements for plan revision	VDEM Mitigation Staff Planning & Policy Sub-committee	Summer, 2008
12. Development of Mitigation Goals and Strategies	VDEM Mitigation Staff Steering Committee Members Strategy and Project Sponsors	Winter-Spring 2009
13. Draft Review	VDEM Mitigation Staff Steering Committee Members	September 1, 2009 – November 1, 2009
14. Submit new Revised All-Hazard Mitigation Plan to FEMA	State Emergency Coordinator	December 1, 2009

